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ABSTRACT

This document is an instructional module package prepared in objective form for use by an instructor familiar with State and Federal wastewater treatment plant operation and discharge permit reporting requirements and knowledgeable in the proper completion of the Iowa Department of Environmental Quality (DEQ) monthly Operation report forms and the Federal Environmental Protection Agency (EPA) quarterly report forms. Included are objectives, instructor guides, student handouts, and transparency masters. This module considers interpretation of DEQ and EPA permits to identify reporting requirements and proper completion of the various report forms. (Author/RH)

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Mary Jo Bruett

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

MONITORING REPORTS

Training Module 4.300.3.77

Prepared for the

Iowa Department of Environmental Quality
Wallace State Office Building
Des Moines, Iowa 50319

by

Kirkwood Community College
6301 Kirkwood Boulevard, S. W.
P. O. Box 2068
Cedar Rapids, Iowa 52406

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September, 1977

SE 024 165

Module No:	Module Title: Monitoring Reports
Approx. Time: 9½ hours	Submodule Title: 1. Operation Permit System - Monthly Monitoring Report 2. Federal Discharge Monitoring Report Form 3320-1.

Overall Objectives: Upon completion of this module the learner should be able to complete properly with no errors:

a. Operation permit record - Monthly monitoring report Forms SQMD I, III, or V or VI or VII.

b. Federal discharge monitoring report Form 3320-1.

Instructional Aids:

Handout
AV (Overhead transparancy)
Calculator

Instructional Approach:

Discussion
Demonstration
Exercise

References:

Iowa Department of Environmental Quality Water Quality Management Division.
State Discharge Permits

Class Assignments:

Read handout
Complete forms

Module No:	Topic: Summary

Instructor Notes:	Instructor Outline:
The emphasis is placed upon a performance in filling out the forms.	I. Purpose II. State form WQMD I, III, V, VI, VII III. Federal Forms EPA 3320-1 IV. Evaluation

Module No:	Module Title: Monitoring Reports
	Submodule Title: 1. Operation Permit System 2. Monthly Monitoring Report
Approx. Time: 1 hour	Topic: State Discharge Permit

Objectives:

Upon completion of this module the learner should be able to identify the State discharge permit requirement to include:

a. Parameters
b. Average maximum and minimum concentration of parameter
c. Frequency of measurement of parameter
d. Sample location

Instructional Aids:

Handout
AV (Overhead transparancy)
Calculator

Instructional Approach:

Discussion
Demonstration
Exercise

References:

Iowa Department of Environmental Quality Water Quality Management Division. State Discharge Permits

Class Assignments:

Read handout
Complete forms

Module No:	Topic: State Discharge Permit

Instructor Notes:	Instructor Outline:
Display a copy of a permit and indicate the parts and sections of the permit.	1. Parameters - Indicate how to identify the parameters needed to be recorded from permits. 2. Average maximum and minimum concentration of parameters. Discuss and demonstrate how to determine the average maximum and mimimum concentrations of parameters. 3. Frequency of measurement of parameter. Indicate the frequency of measurement of parameters required by permit. 4. Sample location - Indicate the sample location required by permit.

Module No:	Module Title: Monitoring Reports
	Submodule Title: Operation Permit System Monthly Monitoring Report
Approx. Time: ½ hour	Topic: Industrial/Commercial Contributor Monitoring Report Form I WQMD III.

Objectives:

Upon completion of this module the learner should be able to complete the operation permit system Industrial/Commercial contributor monitoring report Form WQMD I and III.

Instructional Aids:

Handout
Demonstration
Exercise

Instructional Approach:

Discussion
Demonstration
Exercise

References:

Iowa Department of Environmental Quality Management Division.
State Discharge Permits

Class Assignments:

Read handout
Complete forms

Module No:	Topic: Forms WQMD I & III

Instructor Notes:	Instructor Outline:
1. Emphasis should be placed upon the identification of each parameter, sample location and units of expression (MGD), (GPD), mg/l, S. U. etc. Display a form and identify the sections of the form. If a facility has more than one discharge, a report for each discharge should be completed	1. WQMD I and III. The two state forms WQMD I and WQMD III need to be completed according to requirements set by the permits. 2. Discuss/demonstrate the columns that need averaging, determining the maximum and minimum concentration of a parameter. 3. Discuss/demonstrate the 24 hour sample collection both for influent/effluent at the bottom of form. 4. Indicate a. Facility name b. Facility number c. Discharge serial number d. Signature of agent e. Title of agent f. Remarks

Module No:	Module Title: Monitoring Reports
	Submodule Title: 1. Operation Permit System 2. Monthly Monitoring Report
Approx. Time: ½ Hour	Topic: Waste Stabilization Lagoon Form WQMD V

Objectives:

Upon completion of this module the learner should be able to complete the operation permit system monthly monitoring report for waste stabilization lagoon Form WQMD V.

Instructional Aids:

Handout
AV (Overhead transparancy)
Exercise

Instructional Approach:

Discussion
Demonstration
Exercise

References:

Iowa Department of Environmental Quality Water Quality Management Division. State Discharge Permits

Class Assignments:

Read handout
Complete forms

Module No:	Topic: Waste Stabilization Lagoon Form WQMD V

Instructor Notes:	Instructor Outline:
Display a copy of the form and identify the different sections of the form. If a facility has more than one discharge, a report for each discharge should be completed.	1. Discuss/demonstrate the columns that need averaging, determining the maximum and minimum concentration of a parameter. 2. Discuss/demonstrate the 24 hour sample collection both for influent/effluent at the bottom of form. 3. Indicate a. Facility name b. Facility number c. Discharge serial number d. Signature of agent e. Title of agent f. Remarks

Module No:	Module Title: Monitoring Reports
	Submodule Title: 1. Operation Permit System 2. Monthly Monitoring Report
Approx. Time: ½ hour	Topic: Trickling Filter Form WQMD VI

Objectives:

Upon completion of this module the learner should be able to complete the operation permit system monthly monitoring report for trickling filter Form WQMD VI.

Instructional Aids:

Handout
AV (Overhead transparancy)
Calculator

Instructional Approach:

Discussion
Demonstration
Exercise

References:

Iowa Department of Environmental Quality Water Quality Management Division. State Discharge Permits

Class Assignments:

Read handout
Complete forms

Module No:	Topic: Trickling Filter Form WQMD VI

Instructor Notes:	Instructor Outline:
Display a copy of the form and indicate the different sections. If a facility has more than one discharge, a report for each discharge should be completed.	1. Discuss/demonstrate the columns that need averaging, determining the maximum and minimum concentration of a parameter. 2. Discuss/demonstrate the 24 hour sample collection both for influent/effluent at the bottom of form. 3. Indicate a. Facility name b. Facility number c. Discharge serial number d. Signature of agent e. Title of agent f. Remarks

Module No:	Module Title: Monitoring Reports
	Submodule Title: 1. Operation Permit System 2. Monthly Monitoring Report
Approx. Time: ½ Hour	Topic: Activated Sludge Form WQMD VII

Objectives:

Upon completion of this module the learner should be able to complete the operation permit system monthly monitoring report for activated sludge Form WQMD VII.

Instructional Aids:

Handout
AV (Overhead transparancy)
Calculator

Instructional Approach:

Discussion
Demonstration
Exercise

References:

Iowa Department of Environmental Quality Water Quality Management Division. State Discharge Permits

Class Assignments:

Read handout
Complete forms

Module No:	Topic: Activated Sludge Form WQMD VII

Instructor Notes:	Instructor Outline:
Display a copy of the form and identify the different sections. If a facility has more than one discharge, a report for each discharge should be completed.	1. Discuss/demonstrate the columns that need averaging, determining the maximum and minimum concentration of a parameter. 2. Discuss/demonstrate the 24 hour sample collection both for influent/effluent at the bottom of form. 3. Indicate a. Facility name b. Facility number c. Discharge serial number d. Signature of agent e. Title of agent f. Remarks

Module No:	Module Title: Monitoring Reports
	Submodule Title:
Approx. Time: 1½ Hours	Topic: Three Topics (1 Hr. per)

Objectives:

Since the reporting forms for water treatment and distribution are being revised, the objectives and instruction will be written when the revision is complete.

The evaluation questions do not apply to water since the form revision is not finalized.

Instructional Aids:

Handout
AV (Overhead transparancy)
Calculator

Instructional Approach:

Discussion
Demonstration
Exercise

References:

Iowa Department of Environmental Quality Water Quality Management Division
State Discharge Permits

Class Assignments:

Read handout
Complete forms

Module No:	Module Title: Monitoring Reports
	Submodule Title: Federal Discharge Monitoring Report - EPA Form 3320-1
Approx. Time: 1 hour	Topic: Federal Discharge Permit

Objectives:

Upon completion of this module the learner should be able to identify the Federal permit requirements to include:

a. Parameter
b. Average and maximum quantity and concentration of parameter
c. Frequency of measurement of parameter
d. Sample location

Instructional Aids:

Handout
AV (Overhead transparancy)
Calculator

Instructional Approach:

Discussion
Demonstration
Exercise

References:

Self-Monitoring Procedures, Basic Parameters for Municipal Effluents, EPA 430/1-74-015
Federal Discharge Permits

Class Assignments:

Read handout
Complete forms

Module No:	Topic: Federal Discharge Permit

Instructor Notes:	Instructor Outline:
Display a permit and identify the different section.	1. Parameters - Indicate how to identify the parameters needed to be recorded from permits. 2. Average maximum and minimum concentration of parameters. Discuss and demonstrate how to determine the average maximum and minimum concentrations of parameters. 3. Frequency of measurement of parameter. Indicate the frequency of measurement of parameters required by permit. 4. Sample location - Indicate the sample location required by permit.

Module No:	Module Title: Monitoring Reports
	Submodule Title: Federal Discharge Monitoring Report - EPA Form 3320-1
Approx. Time: 3 hours	Topic: EPA Form 3320-1

Objectives:

Upon completion of this module the learner will demonstrate the ability to complete EPA form 3320-1 Federal Discharge Monitoring Report.

Instructional Aids:

Handout
AV (Overhead transparancy)
Calculator

Instructional Approach:

Discussion
Demonstration
Exercise

References:

Self-Monitoring Procedures, Basic Parameters for Municipal Effluents, EPA 430/1-74-015
Federal Discharge Permits

Class Assignments:

Read handout
Complete forms

Module No:	Topic: EPA Form 3320-1

Instructor Notes:	Instructor Outline:
Display a copy of the form and identify the different sections. Display a completed form Display an incorrectly filled form. If a facility has more than one discharge, a report for each discharge should be completed.	1. Discuss/demonstrate the columns that need averaging, determining the maximum and minimum concentration of a parameter. 2. Discuss/demonstrate the 24 hour sample collection both for influent/effluent at the bottom of form. 3. Indicate a. Facility name b. Facility number c. Discharge serial number d. Signature of agent e. Title of agent f. Remarks

Module No:	Module Title: Monitoring Reports
	Submodule Title:
Approx. Time: 2 hours	EVALUATION

Objectives:

Given:

1. Discharge permits

   a. State
   b. Federal

2. Data pertaining to

   a. 3 operation permit system monthly monitoring report
   b. Federal discharge monitoring report EPA Form 3320-1

The learner upon completion of this module should be able to complete with no errors:

a. 3 Operation permit systems monthly monitoring report for consecutive months.
b. 1 Federal discharge monitoring report EPA Form 3320-1, a quarterly report.

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS - FINAL

Permit No. IA-0044130

1. During the period beginning on the effective date and lasting through April 24, 1977, permittee is authorized to discharge from outfall serial number 001.

Such discharges shall be limited and monitored by the permittee as specified:

	Effluent Limitations					Minimum Monitoring Requirements		
	kg/day (lbs/day)			Other Units (Specify)		Measurement	Sample	Sample
Wastewater Parameter	Daily Avg.		Max.	Daily Avg.	Max	Frequency	Type*	Location**
Biochemical Oxygen Demand (5-day)	7944 (17,514)		10,328 (22,768)	50 mg/l	65 mg/l	6/week	composite	1, 2
Suspended Solids	11,122 (24,510)		13,505 (29,774)	70 mg/l	85 mg/l	6/week	composite	1, 2
Flow = m^3/day (MGD)	----		----	158,970 (42.0)	181,680 (48.0)	daily	----	2
pH	6.9-9.0		(not to be averaged)			6/week	grab	1, 2
Fecal Coliform	----		----	200/100 ml	400/100 ml	2/week	grab	2
***Total Heavy Metals	----		----	----	2.0 mg/l	2/month	composite	1, 2
Ammonia Nitrogen (as N)	1900 (4200)		7006 (317[illegible])	12 mg/l	20 mg/l	6/week	composite	1, 2

There shall be no discharge of floating or settleable substances in other than trace amounts.

*All composite samples are 24 hr. composites (9 samples at 3 hr. intervals).

**Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): (1) raw influent into wastewater treatment facility, (2) final effluent from wastewater treatment facility.

***The total heavy metals group shall be determined by the sum of the individual analyses for Barium, Chromium (hexavalent and trivalent), Copper, Lead, Zinc, Selenium, Mercury.

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Permit No. IA-0044130

Outfall Serial Number	Description
002	Main bypass at main treatment plant
003	Intermediate bypass at main treatment plant
004	Southside trunk overflow at S. E. 9th Street
005	Westside interceptor overflow at confluent of Des Moines River and Raccoon River
006	Westside interceptor overflow at Court Avenue
007	Westside interceptor overflow at Walnut Street
008	Westside interceptor overflow at Locust Street
009	Eastside interceptor overflow at East Locust Street
010	Westside interceptor overflow at Grand Avenue
011	Eastside interceptor overflow at East Grand Avenue
012	Westside interceptor overflow at Center Street dam
013	McVicar Freeway storm sewer outlet at West River Drive
014	Eastside interceptor overflow at East Washington
015	Eastside interceptor overflow at Birdland Pumping Station
016	Westside interceptor overflow at 2nd Avenue & Franklin St.
017	Closes Creek overflow at Hickman and Pros[illegible]
018	Prospect Road pumping station overflow
019	Aurora Avenue pumping station overflow
020	Bloomfield trunk overflow at McKinley Ave. pumping station
021	Bloomfield trunk overflow at S. E. 8th and Yeader Creek
022	Bloomfield trunk over-low at S. E. 6th and Header Creek
023	East 20th St. interceptor overflow at SE 20th St. & Dean Ave
024	Southside overflow at S. E. 9th and Hillside to Holding Basi
025	Southside overflow at S. W. 9th and Virginia
026	Southwest outfall overflow at 56th and Woodland
027	Southwest outfall overflow at Merle Hay Road & Holcomb
028	Ingersoll Run overflow at 22nd & High Street
029	Overflow at 32nd & University
030	Birds Run overflow at 8th Pl. and Keosauqua Way
031	Birds Run overflow to 21st and Carpenter to storm sewer
032	Overflow at 19th and University
033	Closes Creek overflow at 28th and Forest
034	Overflow at 31st and Carpenter
035	Closes Creek overflow at 30th St. South of Franklin
036	Overflow at Clark Street west of 27th Street
037	Closes Creek overflow at Forest and Randall Place
038	Closes Creek overflow at 39th and University
039	Closes Creek overflow at 30th and Holcomb
040	Overflow at 16th and College

August, 1975

TO: All Waste Disposal System Owners and
Wastewater Treatment Plant Operators

RE: Records of Operation Forms

Records of Operation forms have been modified to more closely correspond to Iowa Operation Permit monitoring requirements. The forms previously in use (WWTR series) should be discarded upon receipt of the new forms. All monitoring required by your operation permit should be entered onto these new Records of Operation forms (WQMD series). Facilities which have not yet been issued a permit should continue the testing currently performed and report the results on these new forms.

A pad of the new form for your facility is enclosed. If it is not the correct form, notify the Department of Environmental Quality, Water Quality Management Division, 3920 Delaware Ave., P. O. Box 3326, Des Moines, Iowa 50316 (telephone 515-265-8134, Ext. 299).

Sincerely,

WATER QUALITY MANAGEMENT DIVISION

Robert L. Kellogg
Surveillance & Compliance Section

RLK:pls

September 1975

TO: ALL WASTE DISPOSAL SYSTEM OWNERS AND
WASTEWATER TREATMENT PLANT OPERATORS

RE: Records of Operation Forms

Records of Operation forms have previously been mailed to DEQ Regional Offices. In the future, Records of Operation should be mailed directly to the Central Office, at the following address:

Department of Environmental Quality
Water Quality Management Division
3920 Delaware Avenue
P. O. Box 3326
Des Moines, Iowa 50316

Information from your records of operation forms will be entered into a computer by a Central Office staff. After this initial handling by Central Office staff, the records of operation will be mailed to the Regional office, where they will be reviewed and kept on file.

You are encouraged to continue to communicate with Regional staff about operation problems by filling out the remarks section on the back of the new forms. This new policy will result in an approximate two-week lag between submission of your reports and review by Regional Staff, therefore, any immediate problems you may have should be communicated directly to Regional staff.

Sixteen address stickers are enclosed with the Central Office address typed on them. An address sticker should be attached to the records of operation forms or to a mailing envelope containing the records of operation forms, and mailed by the 10th of the month following the report period.

Several questions have been raised regarding entering data on the new records of operation forms. I would like to reiterate the following points:

1. If you have not yet received your Iowa Operation Permit you are not required to do any testing beyond what you are currently performing. The only change is that the information must be entered on the new forms rather than the old. The sampling referred to in the instruction sheets are recommended sampling only.

2. If you have received your Iowa Operation Permit, you must enter at a minimum the results of required testing specified in your permit. Required testing for parameters not included on the form should be entered on supplementary form, WQMD I. All testing required on significant industrial contributors should be entered on a special form WGMD III. If you do not have the proper forms, notify this office and we will provide you with the necessary forms.

3. All columns on all forms must be totaled and averaged at the bottom of the page in the appropriate spaces. Credit for submission of your records of operation will not be given if this is not done.

4. It is imperative that the correct facility number and name be entered in the upper right-hand corner. The facility number has seven digits. The first two digits of this number are the same as your county number. If you do not know your facility number, contact this office and we will provide you with it.

If you have any questions regarding submission of your reports, please contact the Department of Environmental Quality by mail or call 515-265-8134, Ext. 299.

Sincerely,

WATER QUALITY MANAGEMENT DIVISION

Richard F. Rankin, P.E., Chief
Surveillance & Compliance Section

CPB-69724 3/75

OPERATION PERMIT SYSTEM

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INDUSTRIAL/COMMERCIAL CONTRIBUTOR MONITORING REPORT

Month _____ Year _____

Facility Name and No. _____

Identity of Industrial/Commercial Contributor _____

DATE	DAY OF WEEK	WASTEWATER PARAMETERS ANALYZED										
		Units	Units	Units	Units	Units	Units	Units	Units	Units	Units	Units
1												
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Minimum												

State of Iowa
Department of Environmental Quality
Water Quality Management Division
Form WQMD 111

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X _____
Signature

X _____
Title

STATE OF IOWA
DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY MANAGEMENT DIVISION

OPERATION PERMIT SYSTEM
MONTHLY MONITORING REPORT

PLANT NAME

PERMIT NUMBER

DISCHARGE SERIAL NUMBER

month _____ year _____

DATE	TIME	TYPE SAMPLE	INFLUENT ANALYSES						INTERMEDIATE STAGES				FINAL EFFLUENT ANALYSES										REMARKS
			UNITS	UNITS	UNITS	UNITS	UNITS	UNITS	UNITS	UNITS	UNITS	UNITS	UNITS	UNITS	UNITS	UNITS	UNITS	UNITS	UNITS	UNITS	UNITS	UNITS	
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MINIMUM																							

EXECUTIVE OFFICER OR AGENT

TITLE

FORM WQMD I

STATE OF IOWA
DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY MANAGEMENT DIVISION

OPERATION PERMIT SYSTEM
MONTHLY MONITORING REPORT

FACILITY NAME _____

FACILITY NUMBER — — — — — — —

DISCHARGE SERIAL NUMBER — — —

MONTH _____ YEAR _____

Day	GENERAL: Precipitation Inches	GENERAL: Time Sewage Flowed	GENERAL: Pumpage	RAW SEWAGE: Flow 1,000's Gals.	RAW SEWAGE: Flow Plant Raw %	RAW SEWAGE: BOD5 MG/L	RAW SEWAGE: BOD5 LBS/DAY	RAW SEWAGE: Suspended Solids MG/L	RAW SEWAGE: Ammonia Nitrogen MG/L	RAW SEWAGE: pH	CELL 1: Depth of Pond Feet	CELL 1: Dissolved Oxygen MG/L	CELL 2: Depth of Pond Feet	CELL 2: Dissolved Oxygen MG/L	CELL 3: Depth of Pond Feet	CELL 3: Dissolved Oxygen MG/L	CELL 4: Depth of Pond Feet	CELL 4: Dissolved Oxygen MG/L	CELL No. — CONTENTS PRIOR TO DRAWDOWN: BOD5 MG/L	CELL No. — CONTENTS PRIOR TO DRAWDOWN: Suspended Solids MG/L	CELL No. — CONTENTS PRIOR TO DRAWDOWN: Ammonia Nitrogen MG/L	CELL No. — CONTENTS PRIOR TO DRAWDOWN: pH	CELL No. — CONTENTS PRIOR TO DRAWDOWN: Dissolved Oxygen MG/L	CELL No. — CONTENTS PRIOR TO DRAWDOWN: Fecal Coliform No./100 ml	CELL No. — CONTENTS PRIOR TO DRAWDOWN: BOD5 MG/L	CELL No. — CONTENTS PRIOR TO DRAWDOWN: Suspended Solids MG/L	CELL No. — CONTENTS PRIOR TO DRAWDOWN: Ammonia Nitrogen MG/L	CELL No. — CONTENTS PRIOR TO DRAWDOWN: pH	CELL No. — CONTENTS PRIOR TO DRAWDOWN: Dissolved Oxygen MG/L	CELL No. — CONTENTS PRIOR TO DRAWDOWN: Fecal Coliform No./100 ml	EFFLUENT: Flow 1,000's GPD	EFFLUENT: BOD5 MG/L	EFFLUENT: BOD5 LBS/DAY	EFFLUENT: Suspended Solids MG/L	EFFLUENT: Suspended Solids LBS/DAY	EFFLUENT: Ammonia Nitrogen MG/L	EFFLUENT: Ammonia Nitrogen LBS/DAY	EFFLUENT: pH	EFFLUENT: Dissolved Oxygen MG/L	EFFLUENT: Fecal Coliform No./100 ml	EFFLUENT: Residual Chlorine MG/L
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CODE			773	743	743	760	760	740	704	701*	776*		777*		778*		779*											743	760	760	740	740	704	704	701*	702*	763*	703*
CODE			001	000	000	000	000	000	000	000	001		001		001		001											001	001	001	001	001	001	001	001	001	001	001

INFLUENT 24 HOUR SAMPLE COLLECTION [000]

FLOW _____ MILLION GALLONS/DAY [74324]

BOD_5 _____ MG/L _____ LBS/DAY [78024]

SUSPENDED SOLIDS _____ MG/L _____ LBS/DAY [74024]

AMMONIA NITROGEN _____ MG/L _____ LBS/DAY [70424]

EFFLUENT 24 HOUR SAMPLE COLLECTION [001]

FLOW _____ MILLION GALLONS/DAY [74324]

BOD_5 _____ MG/L _____ LBS/DAY [78024]

SUSPENDED SOLIDS _____ MG/L _____ LBS/DAY [74024]

AMMONIA NITROGEN _____ MG/L _____ LBS/DAY [70424]

_____
SIGNATURE OF EXECUTIVE OFFICER OR AGENT

_____
TITLE

FORM WQMD-V WASTE STABILIZATION LAGOON

IOWA DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY MANAGEMENT DIVISION

Instructions for Submitting Records of Operation
for Waste Disposal Systems

FORM WQMD V - Waste Stabilization Lagoon

The Operation Permit issued for your facility specified the analyses and sampling frequencies which must be monitored. Your report must contain as a minimum the data required in your permit. Any report which does not contain the required data will be considered incomplete. However, the report must be submitted even if it is incomplete and steps must be taken by the reporting entity to insure that the data become available for subsequent reports.

It is recommended that additional monitoring (over and above the required) be performed when the routine monitoring indicates that it is needed. All additional data must be reported on this monthly monitoring report form.

Some permits will require analyses not included on this report form. A supplementary report form, Form WQMD I, is available for submission of these required data. It may also be used to report results of any additional tests being performed which are not included on this form. For Form WQMD I, the sampling location, test name and unit of measurement must be entered at the top of the column by the analyst.

All municipalities are required by their permit to submit to the Department data on significant industrial/commercial contributors to their wastewater disposal system. These industrial/commercial contributors are specified in your permit. A special form, WQMD III, is available for reporting these required data.

All Records of Operation report forms must be sent to the DEQ Regional Office in your area by the 10th day of the month following the month being reported.

The report form tablet contains 25 sheets. Your Record of Operation should be completed in duplicate, and a copy retained for your files. Reorder report forms at least two (2) months in advance to insure an adequate supply.

The report form is perforated and it is intended to be used as an envelope for mailing. Follow the instructions for folding on the back of the report form and mail to DEQ at the above address.

Should there be any questions concerning these instructions, please contact the Iowa Department of Environmental Quality, Central Office, in Des Moines, Iowa, (telephone #515-265-8134), or the DEQ regional office in your area.

Record information and monitoring results in the proper spaces and columns and in the proper units of measurement as outlined below. If the instructions are not carefully followed, proper credit for operation of your system and submission of your "Records of operation" cannot be given. (The sampling frequencies referred to are recommended sampling frequencies. Your permit specifies the minimum required sampling frequency.)

1. Plant or Facility Name - The name of your Facility is entered in the upper right-hand corner.

2. Plant or Facility Number - The number of your Facility is entered in the upper right-hand corner.

3. Discharge Serial Number - The discharge serial number (i.e., 001, 002) for the appropriate discharge point is entered in the upper right-hand corner. (Consult your permit for the proper facility and serial number.)

4. Reporting Period - The month and year for which the report is being submitted is entered in the top-center of the page.

5. Executive Officer or Agent in Direct Responsibility - The signature of the official responsible for submission of the report is entered in the lower right-hand corner.

6. Title of Executive Officer or Agent - The title or position of the official submitting the report is entered in the lower right-hand corner below the signature.

7. Receiving Stream Flow - Record the receiving stream flow according to permit requirements for each day a discharge occurs.

8. Precipitation - Record any precipitation for your area in inches on the appropriate dates. At the end of the month, record the total precipitation.

9. Series or Parallel - Daily, record the mode of operation with an "S" for series and a "P" for parallel. Enter the number of cells in each mode of operation after the S or P. For example, a two cell lagoon with both cells operated in series should be recorded as "S-2". A three cell lagoon with one cell in series and two cells in parallel operation should be recorded as "S-1, P-2".

10. By-Passed - For each occurrence, record the volume of sewage by-passed in 1,000's of gallons. At the end of the month, determine and record the total and maximum values.

11. Influent Flow - Daily, record the total flow of raw sewage influent in 1,000's of gallons per day. At the end of the month, record the average maximum, and minimum flows. For example, a flow of 123,000 gpd should be recorded as 123.

12. Influent Temperature - From a grab sample, record the temperature in degrees Fahrenheit (°F) of the raw sewage influent to the plant. At the end of the month, record the average, maximum, and minimum values.

13. Influent Biochemical Oxygen Demand (BOD) - Twice weekly, collect a grab or composite sample of the raw sewage influent and record the 5-day BOD to the nearest 1 mg/l. At the end of the month determine and record the average and maximum values.

    Pounds of BOD can be calculated from the flow and the concentration of BOD, as below:

    lbs/day BOD = Flow (in millions of gallons per day) x 8.34 x mg/l BOD

14. Influent Suspended Solids - Twice weekly, collect a grab or composite sample of the raw sewage influent and record suspended solids result to the nearest 1 mg/l. At the end of the month, determine and record the average and maximum values.

15. Influent Ammonia Nitrogen - Twice weekly, using a grab or composite sample of the raw sewage influent, and record the result to the nearest 1 mg/l. At the end of the month, determine and record the average and maximum values.

16. Influent pH - Twice weekly, using a grab sample, record the pH of the raw sewage influent to the nearest 0.1 pH unit. At the end of the month, determine and record the maximum and minimum values.

17. Cell Contents (when storing) - Weekly, record the depth of each cell in feet and collect a grab sample from each cell for dissolved oxygen determinations. Take the sample at approximately the same time each day between the hours of 11:00 a.m. and 2:00 p.m. Record the dissolved oxygen to the nearest 1 mg/l. At the end of the month, determine and record the average, maximum and minimum dissolved oxygen values, and the average, maximum and minimum cell depth.

18. Cell Contents Prior to Drawdown - Following a period of storage for more than six weeks, a grab sample of the lagoon cell contents must be collected at least two weeks prior to an anticipated discharge. This sample must be analyzed for 5-day BOD, ammonia nitrogen, pH and dissolved oxygen. It is recommended that suspended soldis and fecal coliform tests also be run. Record the results of these tests in the proper columns and in the proper units of measurement. Where the analyses indicate the wastewater quality does not meet the effluent limitations specified in the permit, storage must be continued until further analyses indicate the wastewater quality is satisfactory for discharge.

19. Effluent Flow - Record the total daily flow of wastewater dishcarged in 1,000's of gallons per day. At the end of the month determine and record the average, maximum and minimum flows.

20. Effluent Biochemical Oxygen Demand (BOD) - Collect a grab or composite sample of the discharge twice weekly throughout the period of discharge. (For example, if you are discharging everyday for 3 weeks, 6 samples must be collected and analyzed.) Record the 5-day BOD results to the nearest 1 mg/l. At the end of the month, determine and record the average and maximum values.

    Pounds of BOD can be calculated from the flow and the concentration of BOD, as below:

    lbs/day BOD = Flow (in millions of gallons/day) x 8.34 x mg/l BOD

21. Effluent Suspended Solids - Collect a grab or composite sample of the discharge. Record the suspended solids results to the nearest 1 mg/l. At the end of the month, determine and record the average and maximum values.

    Pounds of suspended solids can be calculated from the flow and the concentration of suspended solids, as below:

    lbs/day Suspended Solids = Flow (in millions of gallons/day) x 8.34 x mg/l suspended solids.

22. Effluent Ammonia Nitrogen - Collect a grab or composite sample of the discharge twice weekly throughout the period of discharge. Record the ammonia nitrogen results to the nearest 1 mg/l. At the end of the month, determine and record the average and maximum values.

    Pounds of ammonia-nitrogen can be calculated from the flow and the concentration of ammonia-nitrogen, as below:

    lbs/day NH_3 - N = Flow (in millions of gallons/day) x 8.34 x mg/l NH_3 - N

23. Effluent pH - Collect a grab sample of the discharge twice weekly throughout the period of discharge. Record the pH results to the nearest .1 pH unit. At the end of the month, determine and record the maximum and minimum values.

24. Effluent Dissolved Oxygen - Collect a grab sample twice weekly throughout the period of discharge at approximately the same time each day between the hours of 11:00 a.m. and 2:00 p.m. Record the dissolved oxygen results to the nearest .1 mg/l. At the end of the month, determine and record the maximum, minimum and average values.

25. Effluent Fecal Coliform - Weekly, using a grab sample, record the fecal coliform count of the discharge to the nearest 10 organisms per 100 ml. At the end of the month, determine and record the average, maximum and minimum values.

26. Effluent Residual Chlorine (when chlorinating) - Twice weekly, using a grab sample, record the residual chlorine content of the effluent from the plant to the nearest 0.1 mg/l. At the end of the month, determine and record the average, maximum, and minimum values.

27. Influent and Effluent 24-Hour Sample Collections - Special spaces are provided at the bottom of the form for recording sampling results required by both the DEQ (STate) and the EPA (Federal).

Influent 24-hour composites must be collected and analyzed for BOD, suspended solids, and ammonia nitrogen according to permit requirements. Effluent 24-hour composites must be collected according to permit requirements during periods of discharge and analyzed for BOD, suspended solids, and ammonia nitrogen. A grab sample of the effluent must also be collected at the same time as the 24 hour composite and analyzed for fecal coliform. These data and the flow measurements for the day the 24-hour samples were collected must be recorded in the spaces provided at the bottom of the form. Flow should be entered as millions of gallons per day. For example, 123,000 gallons per day should be recorded as .123 MGD. (Important: This is a different unit than is recorded in the column headed "Flow". The flow must be reported in million gallons per day in order to accurately compute pounds from the formula below.) BOD, suspended solids and ammonia nitrogen must be recorded as mg/l and pounds per day (lbs/day). Pounds per day can be computed from the daily flow at the time of sample collection and the concentration of the parameter in mg/l as below:

lbs/day = Flow (in millions of gallons) x 8.34 x mg/l

The results of the effluent fecal coliform analysis should be entered in the appropriate space to the nearest 10 organisms per 100 ml.

IMPORTANT

MAKE ALL ENTRIES WITH INDELIBLE PENCIL FOR A MORE PERMANENT RECORD.

ALL ENTRIES MUST BE LEGIBLE

THESE RECORDS OF OPERATION MUST BE SUBMITTED REGARDLESS OF THE AVAILABILITY OF THE REQUIRED DATA.

MAINTAIN A COPY OF THIS REPORT FOR YOUR RECORDS.

STATE OF IOWA
DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY MANAGEMENT DIVISION

OPERATION PERMIT SYSTEM
MONTHLY MONITORING REPORT

FACILITY NAME _____
FACILITY NUMBER — — — — — — —
DISCHARGE SERIAL NUMBER — — —
MONTH _____ YEAR _____

CP-869786 7 75

DATE	RECEIVING STREAM FLOW-CFS	PRECIPITATION INCHES/DAY	GENERAL: RAW SEWAGE TEMPERATURE	GENERAL: TOTAL FLOW 1,000'S GPD	GENERAL: BY-PASSED 1,000'S GPD	GENERAL: RECIRCULATION 1,000'S GPD	RAW SLUDGE: GALLONS PUMPED 100'S GPD	RAW SLUDGE: TOTAL SOLIDS %	RAW SLUDGE: VOLATILE SOLIDS %	DIGESTER CONTENTS: TEMPERATURE °F	DIGESTER CONTENTS: pH	DIGESTER CONTENTS: VOLATILE ACIDS MG/L	DIGESTER CONTENTS: ALKALINITY MG/L	DIGESTED SLUDGE: TOTAL SOLIDS %	DIGESTED SLUDGE: VOLATILE SOLIDS %	DIGESTED SLUDGE: DISPOSAL VOLUME UNIT?	BOD (5 DAY 20°C): INFLUENT MG/L	BOD (5 DAY 20°C): INFLUENT LBS/DAY	BOD (5 DAY 20°C): PRIMARY EFFLUENT MG/L	BOD (5 DAY 20°C): FILTER EFFLUENT MG/L	BOD (5 DAY 20°C): FINAL EFFLUENT MG/L	BOD (5 DAY 20°C): FINAL EFFLUENT LBS/DAY	SUSPENDED SOLIDS: INFLUENT MG/L	SUSPENDED SOLIDS: INFLUENT LBS/DAY	SUSPENDED SOLIDS: PRIMARY EFFLUENT MG/L	SUSPENDED SOLIDS: FILTER EFFLUENT MG/L	SUSPENDED SOLIDS: FINAL EFFLUENT MG/L	SUSPENDED SOLIDS: FINAL EFFLUENT LBS/DAY	SETTLEABLE SOLIDS ML/L: INFLUENT	SETTLEABLE SOLIDS ML/L: PRIMARY EFFLUENT	SETTLEABLE SOLIDS ML/L: FILTER EFFLUENT	SETTLEABLE SOLIDS ML/L: FINAL EFFLUENT	AMMONIA NITROGEN: INFLUENT MG/L	AMMONIA NITROGEN: INFLUENT LBS/DAY	AMMONIA NITROGEN: FINAL EFFLUENT MG/L	AMMONIA NITROGEN: FINAL EFFLUENT LBS/DAY	pH: INFLUENT	pH: FINAL EFFLUENT MG/L	EFFLUENT DISSOLVED OXYGEN MG/L	EFFLUENT FECAL COLIFORM NO./100ml	EFFLUENT RESIDUAL CHLORINE MG/L	
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INFLUENT 24 HOUR SAMPLE COLLECTION [000]

BOD$_5$ _____ MG/L _____ LBS/DAY [78024]
SUSPENDED SOLIDS _____ MG/L _____ LBS/DAY [74024]
AMMONIA NITROGEN _____ MG/L _____ LBS/DAY [70424]
FLOW _____ MILLION GALLONS/DAY [74324]

EFFLUENT 24 HOUR SAMPLE COLLECTION [001]

BOD$_5$ _____ MG/L _____ LBS/DAY [78024]
SUSPENDED SOLIDS _____ MG/L _____ LBS/DAY [74024]
AMMONIA NITROGEN _____ MG/L _____ LBS/DAY [70424]
FECAL COLIFORM _____ ORGANISMS/100 ML [76324*]

SIGNATURE OF EXECUTIVE OFFICER OR AGENT

TITLE

FORM WOMD-VI TRICKLING FILTER

IOWA DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY MANAGEMENT DIVISION

Instructions for Submitting Records of Operation
for Waste Disposal Systems

FORM WQMD VI - Trickling Filter

The Operation Permit issued for your facility specified the analyses and sampling frequencies which must be monitored. Your report must contain as a minimum the data required in your permit. Any report which does not contain the required data will be considered incomplete. However, the report must be submitted even if it is incomplete and steps must be taken by the reporting entity to insure that the data become available for subsequent reports.

It is recommended that additional monitoring (over and above the required) be performed when the routine monitoring indicates that it is needed. All additional data must be reported on this monthly monitoring report form.

Some permits will require analyses not included on this report form. A supplementary report form, Form WQMD I, is available for submission on these required data. It may also be used to report results of any additional tests being performed which are not included on this form. For Form WQMD I, the sampling location, test name and unit of measurement must be entered at the top of the column by the analyst.

All municipalities are required by their permit to submit to the Department data on significant industrial/commercial contributors to their wastewater disposal system. These industrial/commercial contributors are specified in your permit. A special form, WQMD III, is available for reporting these required data.

All Records of Operation report forms must be sent to the DEQ Regional Office in your area by the 10th day of the month following the month being reported.

The report form tablet contains 25 sheets. Your Record of Operation should be completed in duplicate, and a copy retained for your files. Reorder report forms at least two (2) months in advance to insure an adequate supply.

The report form is perforated and it is intended to be used as an envelope for mailing. Follow the instructions for folding on the back of the report form and mail to DEQ at the above address.

Should there be any questions concerning these instructions, please contact the Iowa Department of Environmental Quality, Central Office, in Des Moines, Iowa, (telephone #515-265-8134), or the DEQ regional office in your area.

Record information and monitoring results in the proper spaces and columns and in the proper units of measurement as outlined below. If the instructions are not carefully followed, proper credit for submission of your "Records of Operation" cannot be given. (The sampling frequencies referred to are recommended sampling frequencies. Your permit specifies the minimum required sampling frequency.)

1. Plant or Facility Name - The name of your Facility is entered in the upper right-hand corner.

2. Plant or Facility Number - The number of your Facility is entered in upper right-hand corner.

3. Discharge Serial Number - The discharge serial number (i.e. 001, 002) for the appropriate discharge point is entered in the upper right-hand corner. (Consult your permit for the proper facility and serial number.)

4. Reporting Period - The month and year for which the report is being submitted is entered in the top-center of the page.

5. Executive Officer or Agent in Direct Responsibility - The signature of the official responsible for submission of the report is entered in the lower right-hand corner.

6. Title of Executive Officer or Agent - The title or position of the official submitting the report is entered in the lower right-hand corner below the signature.

7. Receiving Stream Flow - Report the receiving stream flow in cfs according to permit requirements.

8. Precipitation - Record any precipitation for your area in inches on the appropriate dates. At the end of the month, record the total precipitation.

9. Temperature - From a grab sample, record the daily temperature in degrees Fahrenheit (^{o} F) of the raw sewage influent to the plant. At the end of the month, record the average, maximum, and minimum values.

10. Total Flow - Daily, record the total flow of raw sewage influent in 1,000's of gallons per day. At the end of the month, determine and record the average, maximum and minimum flows. For example, a flow of 123,000 gpd should be recorded as 123.

11. By-Passed - For each occurrence, record the volume of sewage by-passed in 1,000's of gallons. At the end of the month, determine and record the total and maximum values.

12. Recirculated - Daily, record the volume of sewage recirculated in 1,000's of gallons. At the end of the month, determine and record the average value.

24. Suspended Solids - Daily, using a grab or composite sample, record the suspended solids content of the raw sewage influent and the final effluent to the nearest 1 mg/l. Use the formula for pounds BOD/day, substituting mg/l suspended solids for mg/l BOD, to compute the pounds per day suspended solids. Record these values in the appropriate columns. Daily, using a grab sample, record the suspended solids content of the primary effluent and the trickling filter effluent to the nearest 1 mg/l. At the end of the month, determine and record the average and maximum values for all suspended solids columns.

25. Settleable Solids - Daily, using a grab sample, record the settleable solids content of the raw sewage influent, primary effluent, filter effluent, and final effluent to the nearest 0.1 mg/l. At the end of the month, record the average values.

26. Ammonia-Nitrogen - Twice weekly, using a grab sample, record the ammonia-nitrogen content of the influent and effluent to the nearest 1 mg/l.

    Use the following formula to compute pounds of ammonia per day, and enter the values in the appropriate columns.

    lbs. NH_3-N/day = Flow (in millions of gallons) x 8.34 x mg/l NH_3-N

    At the end of the month, determine and record the maximum and average values for all ammonia-nitrogen columns.

27. pH - Daily, using a grab sample, record the pH of the raw sewage influent and final effluent to the nearest 0.1 pH unit. At the end of the month, record the maximum and minimum values.

28. DO Effluent - Daily, using a grab sample, record the dissolved oxygen content of the effluent from the plant to the nearest 0.1 mg/l. If a polishing lagoon is involved, take the sample at approximately the same time each day between the hours of 11:00 a.m. and 2:00 p.m. At the end of the month, determine and record the average, maximum and minimum values.

29. Fecal Coliform - Using a grab sample, record the fecal coliform count of the effluent from the plant to the nearest 10 organisms per 100 ml. At the end of the month, determine and record the average and maximum values.

30. Residual Chlorine When Chlorinating - Daily, using a grab sample, record the residual chlorine content of the effluent from the plant to the nearest 0.1 mg/l. At the end of the month, determine and record the average, maximum, and minimum values.

31. Other - This space may be filled in by the operator with additional tests and results which may be run at the plant.

32. INFLUENT and EFFLUENT 24-Hour Sample Collections - Special spaces are provided at the bottom of the form for recording sampling results required by both the DEQ (State) and the EPA (Federal). Influent 24-hour composites must be collected and analyzed for BOD, suspended solids, and ammonia nitrogen according to permit requirements. Effluent 24-hour composites must be collected according

to permit requirements and analyzed for BOD, suspended solids, and ammonia nitrogen. A grab sample of the effluent must also be collected at the same time as the 24-hour composite and analyzed for fecal coliform. These data must be recorded in the spaces provided at the bottom of the form. Flow must be measured at the same time the 24-hour composites are collected and entered as millions of gallons per day. For example, 123,000 gallons per day should be recorded as .123 MGD. (Important: This is a different unit than is recorded in the column headed "Flow". The flow must be reported here in million gallons per day in order to accurately compute pounds from the formula below.) BOD, suspended solids, and ammonia nitrogen must be recorded as mg/l and pounds per day (lbs/day). Pounds per day can be computed from the daily flow at the time of sample collection and the concentration of the parameter in mg/l as below:

lbs/day = Flow (in millions of gallons) x 8.34 x mg/l

The results of the effluent fecal coliform analysis should be entered in the appropriate space to the nearest 10 organisms per 100 ml.

IMPORTANT

MAKE ALL ENTRIES WITH INDELIBLE PENCIL FOR A MORE PERMANENT RECORD.

ALL ENTRIES MUST BE LEGIBLE

THESE RECORDS OF OPERATION MUST BE SUBMITTED REGARDLESS OF THE AVAILABILITY OF THE REQUIRED DATA.

MAINTAIN A COPY OF THIS REPORT FOR YOUR RECORDS.

STATE OF IOWA
DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY MANAGEMENT DIVISION

OPERATION PERMIT SYSTEM
MONTHLY MONITORING REPORT

FACILITY NAME _____

FACILITY NUMBER — — — — — — —

DISCHARGE SERIAL NUMBER — — —

MONTH _____ YEAR _____

CP 869787 7-75

DATE	PRECIPITATION INCHES/DAY	RAW SEWAGE: TEMPERATURE OF	RAW SEWAGE: FLOW 1,000'S GPD	RAW SEWAGE: BY-PASSED 1,000'S GPD	RAW SEWAGE: pH	RAW SEWAGE: SETTLEABLE SOLIDS MG/L	RAW SEWAGE: SUSPENDED SOLIDS ML/L	RAW SEWAGE: SUSPENDED SOLIDS LBS/DAY	RAW SEWAGE: BOD_5 MG/L	RAW SEWAGE: BOD_5 LBS/DAY	RAW SEWAGE: AMMONIA NITROGEN MG/L	RAW SLUDGE: GALLONS PUMPED	RAW SLUDGE: TOTAL SOLIDS %	RAW SLUDGE: VOLATILE SOLIDS %	DIGESTER CONTENTS: TEMPERATURE OF	DIGESTER CONTENTS: pH	DIGESTER CONTENTS: VOLATILE ACIDS MG/L	DIGESTER CONTENTS: ALKALINITY MG/L	DIGESTED SLUDGE: TOTAL SOLIDS %	DIGESTED SLUDGE: VOLATILE SOLIDS %	DIGESTED SLUDGE: DISPOSAL VOLUME UNIT	AERATION TANK 1: DISSOLVED OXYGEN MG/L	AERATION TANK 1: MIXED LIQUOR SETTLEABLE SOLIDS ML/L	AERATION TANK 1: MIXED LIQUOR SUSPENDED SOLIDS MG/L	AERATION TANK 2: DISSOLVED OXYGEN MG/L	AERATION TANK 2: MIXED LIQUOR SETTLEABLE SOLIDS ML/L	AERATION TANK 2: MIXED LIQUOR SUSPENDED SOLIDS MG/L	WASTE SLUDGE: RETURN ACTIVATED SLUDGE 1,000'S GPD	WASTE SLUDGE: WASTED ACTIVATED SLUDGE 1,000'S GPD	FINAL EFFLUENT: BOD_5 MG/L	FINAL EFFLUENT: BOD_5 LBS/DAY	FINAL EFFLUENT: SUSPENDED SOLIDS MG/L	FINAL EFFLUENT: SUSPENDED SOLIDS LBS/DAY	FINAL EFFLUENT: SETTLEABLE SOLIDS ML/L	FINAL EFFLUENT: AMMONIA NITROGEN MG/L	FINAL EFFLUENT: AMMONIA NITROGEN LBS/DAY	FINAL EFFLUENT: DISSOLVED OXYGEN MG/L	FINAL EFFLUENT: pH	FINAL EFFLUENT: FECAL COLIFORM NO./100 ml	FINAL EFFLUENT: RESIDUAL CHLORINE MG/L		RECEIVING STREAM FLOW-CFS
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INFLUENT 24 HOUR SAMPLE COLLECTION [000]

FLOW _____ MILLION GALLONS/DAY [74324]

BOD_5 _____ MG/L _____ LBS/DAY [78024]

SUSPENDED SOLIDS _____ MG/L _____ LBS/DAY [74024]

AMMONIA NITROGEN _____ MG/L _____ LBS/DAY [70424]

EFFLUENT 24 HOUR SAMPLE COLLECTION [000]

FECAL COLIFORM _____ ORGANISMS/100 ML [78324]

BOD_5 _____ MG/L _____ LBS/DAY [78024]

SUSPENDED SOLIDS _____ MG/L _____ LBS/DAY [74024]

AMMONIA NITROGEN _____ MG/L _____ LBS/DAY [70424]

SIGNATURE OF EXECUTIVE OFFICER OR AGENT

TITLE

FORM WOMD-VII ACTIVATED SLUDGE

IOWA DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY MANAGEMENT DIVISION

Instructions for Submitting Records of Operation
for Waste Disposal Systems

FORM WQMD VII - Activated Sludge

The Operation Permit issued for your facility specified the analyses and sampling frequencies which must be monitored. Your report must contain as a minimum the data required in your permit. Any report which does not contain the required data will be considered incomplete. However, the report must be submitted even if it is incomplete and steps must be taken by the reporting entity to insure that the data become available for subsequent reports.

It is recommended that additional monitoring (over and above the required) be performed when the routine monitoring indicates that it is needed. All additional data must be reported on this monthly monitoring report form.

Some permits will require analyses not included on this report form. A supplementary report form, Form WQMD I, is available for submission of these required data. It may also be used to report results of any additional tests being performed which are not included on this form. For Form WQMD I, the sampling location, test name and unit of measurement must be entered at the top of the column by the analyst.

All municipalities are required by their permit to submit to the Department data on significant industrial/commercial contributors to their wastewater disposal system. These industrial/commercial contributors are specified in your permit. A special form, WQMD III, is available for reporting these required data.

All Records of Operation report forms must be sent to the DEQ Regional Office in your area by the 10th day of the month following the month being reported.

The report form tablet contains 25 sheets. Your Record of Operation should be completed in duplicate, and a copy retained for your files. Reorder report forms at least two (2) months in advance to insure an adequate supply.

The report form is perforated and it is intended to be used as an envelope for mailing. Follow the instructions for folding on the back of the report form and mail to DEQ at the above address.

Should there be any questions concerning these instructions, please contact the Iowa Department of Environmental Quality, Central Office, in Des Moines, Iowa, (telephone #515-265-8134), or the DEQ regional office in your area.

Record information and monitoring results in the proper spaces and columns and in the proper units of measurement as outlined below. If the instructions are not carefully followed, proper credit for submission of your "Records of Operation" cannot be given. (The sampling frequencies referred to are recommended sampling frequencies. Your permit specifies the minimum required sampling frequency.)

1. Plant or Facility Name - The name of your Facility is entered in the upper right-hand corner.

2. Plant or Facility Number - The number of your Facility is entered in the upper right-hand corner.

3. Discharge Serial Number - The discharge serial number (i.e., 001, 002) for the appropriate dishcarge point is entered in the upper right-hand corner. (Consult your permit for the proper facility and serial number.)

4. Reporting Period - The month and year for which the report is being submitted is entered in the top-center of the page.

5. Executive Officer or Agent in Direct Responsibility - The signature of the official responsible for submission of the report is entered in the lower right-hand corner.

6. Title of Executive Officer or Agent - The title or position of the official submitting the report is entered in the lower right-hand corner below the signature.

7. Precipitation - Record any precipitation for your area in inches on the appropriate dates.

8. Temperature - From a grab sample, record the daily temperature in degrees Fahrenheit (^{o}F) of the raw sewage influent to the plant. At the end of the month, record the average, maximum, and minimum values.

9. Total Flow - Daily, record the total flow of raw sewage influent in 1,000's of gallons per day. At the end of the month, determine and record the average, maximum and minimum flows. For example, a flow of 123,000 gpd should be recorded as 123.

10. By-Passed - For each occurrence, record the volume of sewage by-passed in 1,000's of gallons. At the end of the month, determine and record the total and maximum values.

11. Influent pH - Daily, using a grab sample, record the pH of the raw sewage influent to the nearest 0.1 pH unit. At the end of the month, determine and record the maximum and minimum values.

12. Influent Settleable Solids - Daily, collect a grab sample of the raw sewage influent and record settleable solids to the nearest 0.1 ml/l. At the end of the month, determine and record the average value.

13. Influent Suspended Solids - Daily, collect a grab or composite sample of the raw sewage influent and record suspended solids result to the nearest 1 mg/l. Use the following formula to compute pounds suspended solids per day, and enter in the designated column.

    lbs. susp. solids/day = flow (in millions of gal/day) x 8.34 x mg/l suspended solids

At the end of the month, determine and record the average and maximum values.

14. Influent Biochemical Oxygen Demand (BOD) - Daily, collect a grab or composite sample of the raw sewage influent and record the 5-day BOD to the nearest 1 mg/l. Pounds of BOD can be calculated from the flow and the concentration of BOD, as below:

    lbs/day BOD = Flow (in millions of gallons per day) x 8.34 x mg/l BOD

    At the end of the month, determine and record the average and maximum values.

15. Influent Ammonia Nitrogen - Daily, using a grab or composite sample of the raw sewage influent, record the result to the nearest 1 mg/l. At the end of the month, determine and record the average and maximum values.

16. Gallons Pumped-Sludge - Daily, record the gallons of sludge pumped from the primary tank or tanks. At the end of the month, record the average value.

17. Sludge % Total Solids - Daily, using a grab sample, record the % total solids of the sludge to the nearest 1%. At the end of the month, determine and record the average and maximum values.

18. Sludge % Volatile Solids - Daily, using a grab sample, record the % volatile solids of the sludge to the nearest 1%. At the end of the month, determine and record the average and maximum values.

19. Digester Temperature - Daily, record temperature of the digester (^{o}F). At the end of the month, determine and record the maximum and minimum values.

20. Digester pH - Daily, record the pH of the digesting sludge, using a grab sample, to the nearest 0.1 pH. At the end of the month, determine and record the maximum and minimum pH.

21. Digester Volatile Acids - Daily, using a grab sample, record the volatile acid content of the digester sludge to the nearest 10 mg/l. At the end of the month, determine and record the maximum and minimum values.

22. Digester Alkalinity - Daily, using a grab sample, record the alkalinity of the digester sludge to the nearest 1 mg/l. At the end of the month, determine and record the maximum and minimum values.

23. Digested Sludge % Total Solids - Using a grab sample, record the % total solids of the digested sludge to the nearest 1%. At the end of the month, determine and record the maximum, minimum and average values.

24. Digested Sludge % Volatile Solids - Using a grab sample, record the % volatile solids of the digested sludge to the nearest 1%. At the end of the month, determine and record the maximum, minimum and average values.

25. Digested Sludge Disposal Volume - Enter the volume of digested sludge for each day a disposal was made. This should be reported in pounds/day, gallons per day, or cubic feet per day. The unit must be entered into the space provided in the column heading. At the end of the month, enter the total gallons, pounds, or cubic feet for that month.

26. Effluent Residual Chlorine (when chlorinating) - Twice weekly, using a grab sample, record the residual chlorine content of the effluent from the plant to the nearest 0.1 mg/l. At the end of the month, determine and record the average, maximum, and minimum values.

27. Receiving Stream Flow - Record the receiving stream flow in cfs according to permit requirements.

28. INFLUENT AND EFFLUENT 24-Hour Sample Collections - Special spaces are provided at the bottom of the form for recording sampling results required by both the DEQ (State) and EPA (Federal).

    Influent 24-hour composites must be collected and analyzed for BOD, suspended solids, and ammonia nitrogen according to permit requirements. Effluent 24-hour composites must be collected according to permit requirements during periods of discharge and analyzed for BOD, suspended solids, and ammonia nitrogen. A grab sample of the effluent must also be collected at the same time as the 24-hour composite and analyzed for fecal coliform. These data must be recorded in the spaces provided at the bottom of the form. Flow must be measured at the same time the 24-hour composites are collected and entered as millions of gallons per day. For example, 123,000 gallons per day should be recorded as .123 MGD. (Important: This is a different unit than is recorded in the column headed "Flow". The flow must be reported here in million gallons per day in order to accurately compute pounds from the formula below.) BOD, suspended solids, and ammonia nitrogen must be recorded as mg/l and pounds per day (lbs/day). Pounds per day can be computed from the daily flow at the time of sample collection and the concentration of the parameter in mg/l as below:

    lbs/day = Flow (in millions of gallons) x 8.34 x mg/l

    The results of the effluent fecal coliform analysis should be entered in the appropriate space to the nearest 10 organisms per 100 ml.

IMPORTANT

MAKE ALL ENTRIES WITH INDELIBLE PENCIL FOR A MORE PERMANENT RECORD.

ALL ENTRIES MUST BE LEGIBLE.

THESE RECORDS OF OPERATION MUST BE SUBMITTED REGARDLESS OF THE AVAILABILITY OF THE REQUIRED DATA.

MAINTAIN A COPY OF THIS REPORT FOR YOUR RECORDS.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS -

During the period beginning on the effective date and lasting through June 30, 1977, permittee is authorized to discharge from outfall Serial Number 001.

Such discharges shall be limited and monitored by the permittee as specified:

	Effluent Limitations				Minimum Monitoring Requirements		
Wastewater Parameter	kg/day (lbs/day) Daily Avg.	Max.	Other Units (Specify) Daily Avg.	Max.	Measurement Frequency	Sample Type	Sample Location*
***Biochemical Oxygen Demand (5-day)	57 (125)	85 (188)	30 mg/l	45 mg/l		composite	1,2
					quarterly	---	---
**EQAP	---	---	---	---	monthly	grab	2
***Suspended Solids	57 (125)	85 (188)	30 mg/l	45 mg/l		composite	1,2
					quarterly	---	---
***Flow - m^3/day (MGD)	---	---	1892 (.500)	2839 (.750)	daily	---	1
***PH	6.5-9.0	(not to be averaged)			daily	grab	2,4
Temperature	---	---	---	---	daily	grab	1,4
Settleable Solids	---	---	---	---	daily	grab	1,2,3
Dissolved Oxygen	---	---	---	---	daily	grab	2
Ammonia Nitrogen (asN)	---	---	---	---		composite	2

There shall be no discharge of floating or settleable substances in other than trace amounts.

*Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): (1) raw sewage influent to the treatment plant, (2) final effluent from the treatment plant, (3) wastewater flow following primary clarification, (4) digestion contents.

**Sample submitted for the Effluent Quality Analysis Program (EQAP) conducted in accordance with Chapter 18 of the Rules of the Iowa Department of Environmental Quality (1973 I.D.R.).

***Only these monitoring data shall be summarized and reported to the Environmental Protection Agency.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

DISCHARGE MONITORING REPORT

Form Approved
OMB NO 158-R0073

ST | PERMIT NUMBER | DIS | SIC | LATITUDE | LONGITUDE

REPORTING PERIOD FROM (YEAR MO DAY) TO (YEAR MO DAY)

INSTRUCTIONS

1. Provide dates for period covered by this report in spaces marked "REPORTING PERIOD".
2. Enter reported minimum, average and maximum values under "QUANTITY" and "CONCENTRATION" in the units specified for each parameter as appropriate. Do not enter values in boxes containing asterisks. "AVERAGE" is average computed over actual time discharge is occurring. "MAXIMUM" and "MINIMUM" are extreme values observed during the reporting period.
3. Specify the number of analyzed samples that exceed the maximum (and/or minimum as appropriate) permit conditions in the columns labeled "No. Ex." If none, enter "0".
4. Specify frequency of analysis for each parameter as No. analyses/No. days. (e.g., "1/7" is equivalent to 1 analysis performed every 7 days.) If continuous enter "CONT."
5. Specify sample type ("grab" or "___ hr. composite") as applicable. If frequency was continuous, enter "NA".
6. Appropriate signature is required on bottom of this form.
7. Remove carbon and retain copy for your records.
8. Fold along dotted lines, staple and mail Original to office specified in permit.

PARAMETER		QUANTITY (3 card only) MINIMUM	QUANTITY AVERAGE	QUANTITY MAXIMUM	QUANTITY UNITS	QUANTITY NO. EX	CONCENTRATION (4 card only) MINIMUM	CONCENTRATION AVERAGE	CONCENTRATION MAXIMUM	CONCENTRATION UNITS	CONCENTRATION NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
	REPORTED												
	PERMIT CONDITION												
	REPORTED												
	PERMIT CONDITION												
	REPORTED												
	PERMIT CONDITION												
	REPORTED												
	PERMIT CONDITION												
	REPORTED												
	PERMIT CONDITION												
	REPORTED												
	PERMIT CONDITION												
	REPORTED												
	PERMIT CONDITION												

NAME OF PRINCIPAL EXECUTIVE OFFICER	TITLE OF THE OFFICER	DATE	
LAST FIRST MI	TITLE	YEAR MO DAY	I certify that I am familiar with the information contained in this report and that to the best of my knowledge and belief such information is true, complete, and accurate.

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

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NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

DISCHARGE MONITORING REPORT

Form Approved
OMB NO. 158-R0073

ST	PERMIT NUMBER	DIS	SC	LATITUDE	LONGITUDE
IA	0022012	001	4952		

REPORTING PERIOD FROM 7 5 05 01 (YEAR MO DAY) TO 7 5 07 31 (YEAR MO DAY)

INSTRUCTIONS

1. Provide dates for period covered by this report in spaces marked "REPORTING PERIOD".
2. Enter reported minimum, average and maximum values under "QUANTITY" and "CONCENTRATION" in the units specified for each parameter as appropriate. Do not enter values in boxes containing asterisks. "AVERAGE" is average computed over actual time discharge is operating. "MAXIMUM" and "MINIMUM" are extreme values observed during the reporting period.
3. Specify the number of analyzed samples that exceed the maximum (and/or minimum as appropriate) permit conditions in the columns labeled "No. Ex." If none, enter "0".
4. Specify frequency of analysis for each parameter as No. analyses/No. days. (e.g., "3/7" is equivalent to 3 analyses performed every 7 days.) If continuous enter "CONT."
5. Specify sample type ("grab" or "___ hr. composite") as applicable. If frequency was continuous, enter "NA".
6. Appropriate signature is required on bottom of this form.
7. Remove carbon and retain copy for your records.
8. Fold along dotted lines, staple and mail Original to office specified in permit.

PARAMETER		QUANTITY (3 card only) MINIMUM	QUANTITY AVERAGE	QUANTITY MAXIMUM	QUANTITY UNITS	QUANTITY NO. EX	CONCENTRATION (4 card only) MINIMUM	CONCENTRATION AVERAGE	CONCENTRATION MAXIMUM	CONCENTRATION UNITS	CONCENTRATION NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
Flow	REPORTED	.190	.231	.290	MGD	0	---	---	---	---	---	cont.	N/A
	PERMIT CONDITION						---	---	---	---	---	daily	---
PH 3 Final Effluent	REPORTED	7.1	---	7.9	SU	0	---	---	---	---	---	7/7	Grab
	PERMIT CONDITION	6.5		9.0			---	---	---	---	---	7/7	Grab
BOD 1 Influent	REPORTED	---	335	---	lbs/day	0	---	181	---	Mg/L	0	1/90	8 hr.comp
	PERMIT CONDITION	---	---	---		---	---	---	---		---	1/90	comp
BOD 3 Final Effluent	REPORTED	51	58	65	lbs/day	0	28	30	33	Mg/L	0	1/30	8 hr.comp
	PERMIT CONDITION	---	50	75		---	---	30	45		---	1/30	comp.
SS 1 Influent	REPORTED	---	300	---	lbs/day	0	---	162	---	Mg/L	0	1/90	8 hr. comp
	PERMIT CONDITION	---	---	---		---	---	---	---		---	1/90	comp
SS 3 Final Effluent	REPORTED	15	38	53	lbs/day	0	8	20	28	Mg/L	0	1/30	8 hr. comp.
	PERMIT CONDITION	---	50	75		---	---	30	45		---	1/30	comp.
	REPORTED												
	PERMIT CONDITION												
	REPORTED												
	PERMIT CONDITION												

NAME OF PRINCIPAL EXECUTIVE OFFICER (LAST FIRST MI)	TITLE OF THE OFFICER (TITLE)	DATE (YEAR MO DAY)	
Koundakjian, Philip R.	Instructor	75 08 04	I certify that I am familiar with the information contained in this report and that to the best of my knowledge and belief such information is true, complete, and accurate.

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

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STATE MONITORING REPORT

These instructions are only if you sample and test ONE 24-hour composit per month on raw and final, but also sample and test either 6-hour composit or grab samples.

I. If your monthly record sheet is not legible, then transfer to a new sheet and mark legibly.

II. On your monthly record sheet (file copy) total all columns except:

WQMD V . . . . . Columns 1, 3, 11, 23, 19, 39, 41

WQMD VI . . . . . Columns 1, 11, 12, 13, 37, 38, 40

WQMD VII . . . . . Columns, 5, 16, 17, 18, 38, 39, 42

Record all totals in appropriate blocks even though some are blacked out.

III. Calculate averages for all columns:

$$\frac{\text{Total value}}{\text{Number of tests or recordings}} = \text{Average}$$

Except columns:

WQMD V . . . . . Columns 1, 2, 3, 4, 11, 23, 29, 39, 41

WQMD VI . . . . . Columns 2, 5, 11, 12, 13, 32, 38

WQMD VII . . . . . Columns 4, 5, 16, 17, 18, 38, 39, 42

IV. Place maximum value (largest number) in that column in the maximum block. All blocks in Form WQMD V, VI, & VII are appropriately clear.

V. Place minimum value (lowest number) in that column in the minimum block. All blocks in Form WQMD V, VI, VII are appropriately clear.

VI. RECORD ALL VALUES OF TESTS OF THE 24-HOUR COMPOSIT IN THE APPROPRIATE SECTIONS IN BOTTOM OF FORMS.

1. The results are obtained in mg/l either from the commercial lab or plant lab.

2. Do not forget to record the flow of the day you composited the sample to be tested in MGD. Total flow in 1000's GPD ÷ 1000 = MGD.

3. This formula: lbs/day = 8.34 x mg/l x Flow (MGD) is used to calculate the lbs/day of BOD_5 suspended solids and ammonia nitrogen.

VII. On form to Iowa DEQ make sure that only open blocks are filled. Copy these from file copy.

VIII. If you make any variations to permit testing frequency, report what you have done on back of form that goes to Des Moines. Use extra pages (8½ x 11) if you have to.

IX. Keep copies of all communications, form, and letters that you send to DEQ.

X. MAKE SURE THAT THE:

1. Month
2. Year
3. Facility Name
4. Facility Number
5. Discharge Serial Number
6. Signature
7. Title

ARE ENTERED LEGIBLY AND CORRECTLY IN THE RIGHT PLACE.

STATE MONITORING REPORT

These instructions are only if you sample on a 24-hour composit basis, for required tests or if you do not composite on a 24-hour basis, but composit on a 6 or 8-hour basis and the testing frequency is more than one/month.

I. If your monthly record sheet is not legible, then transfer to a new sheet and mark legibly.

II. On your monthly record sheet (file copy) total all columns except:

WQMD V . . . . . Columns 1, 3, 11, 23, 29, 39, 41

WQMD VI . . . . . Columns 1, 11, 12, 13, 37, 38, 40

WQMD VII . . . . . Columns 5, 16, 17, 18, 38, 39, 42

Record all totals in appropriate blocks even though some are blacked out.

III. Calculate averages for all columns:

$$\frac{\text{Total value}}{\text{Number of tests or recordings}} = \text{Average}$$

Except columns:

WQMD V . . . . . Columns 1, 2, 3, 4, 11, 23, 29, 39, 41

WQMD VI . . . . . Columns 2, 5, 11, 12, 13, 32, 38

WQMD VII . . . . . Columns 4, 5, 16, 17, 18, 38, 39, 42

IV. Place maximum value (largest number) of that column in the maximum blocks. All blocks in Form WQMD V, VI, & VII are appropriately clear.

V. Place minimum value (lowest number) in that column in the minimum block.

WQMD V . . . . . Columns 7, 8, 9, 33, 34, 35, 36

WQMD VI . . . . . Columns 17, 18, 21, 22, 23, 24, 27, 28

WQMD VII . . . . . Columns 7, 8, 9, 10, 30, 31, 32, 33, 39

Record value even though block is blacked out.

VI. Fill fecal coliform space in effluent (24-hour sample collection) section only if you test once per month.

IGNORE ALL OTHER SPACES AT BOTTOM OF FORM BOTH INFLUENT AND EFFLUENT.

VII. On form to Iowa DEQ make sure that only open blocks are filled. Copy these from file copy.

VIII. If you make any variations to permit testing frequency, report what you have done on back of form that goes to Des Moines. Use extra pages (8½ x 11) if you have to.

IX. Keep copies of all communications, form, and letters that you send to DEQ.

X. MAKE SURE THAT THE:

1. Month
2. Year
3. Facility Name
4. Facility Number
5. Discharge Serial Number
6. Signature
7. Title

ARE ENTERED LEGIBLY AND CORRECTLY IN THE RIGHT PLACE.

EFFLUENT MONITORING REPORT

EPA FORM 3320-1

ST	Permit Number	Dis	Sic	Latitude	Longitude

Reporting Period: From

Year	Mo.	Day

To

Year	Mo.	Day

A. Identification of permit holder and discharge

1. Enter name and address of permit holder.

   a. Space is provided in top left of form.

2. Enter (I A) for Iowa in block labeled "St.".

3. Enter permit number in block labeled permit number.

   a. The number is your Federal Number not your State Facility Number.

4. Enter discharge number in "dis" block.

   a. Normally 001 is used, unless there is more than one discharge point, which will be indicated in the permit.

5. Enter discharge code

   a. 4952 is used for municipal discharges.
   b. For industrial discharges, the permit will indicate so.

6. Enter latitude and longitude of discharge.

   a. Make an effort to locate the latitude and longitude of the discharge. (Old records, engineering firm, Iowa Geological Survey.)
   b. If unable to locate, omit by placing xxx in block.

7. Enter reporting period in appropriate blocks.

   a. Remember that a quarterly report is for 3 consecutive months.
   b. Starting quarterly report will be indicated in the permit.

ST	Permit Number	Dis	Sic	Latitude	Longitude
IA	0022012	001	4952		

Reporting Period: From

Year	Mo.	Day
7 5	0 5	0 1

Year	Mo.	Day
7 5	0 7	3 1

Note: There will be federal permits that require additional monitoring areas. Example:

1. Digester PH
2. Chlorine residual
3. Industrial discharges into municipal systems
4. Major contributors to the municipal flow

These parameters will be specified in the federal permit. Make sure that these parameters are properly marked:

BOD_5	4
Creamery	

8. It is preferable that the sequence to fill the EPA 3320-1 Form be:

1. Flow
2. PH
3. BOD_5

   a. Influent
   b. Effluent
   c. Major contributor
   d. % Removal

4. S.S.

   a. Influent
   b. Effluent
   c. Major contributor
   d. % Removal

5. Fecal Coliform
6. Additional parameters

   a. Heavy metals
   b. Grease and oil
   c. Etc.

B. Flow Data

1. In parameter space enter:

   a. Flow
   b. Sample location number
   c. Sample Location

2. Concentration section

   a. Place dashes (---) in "reported" line, "permit condition" line, units column and no. ex. column.

Parameter	Concentration				
	Minimum	Average	Maximum	Units	No. Ex.
Flow 1	---	---	---		---
Influent	---	---	---	---	---

3. Frequency of analysis column

   a. Permit condition line

      1. Enter daily

   b. Reported line

      1. Enter cont. if the plant flow is measured by flow meter.
      2. Enter daily if the plant flow is measured by hour pump operation.
      3. Enter daily if plant flow is measured by a totalizer.
      4. Leave blank if no method of measurement.

4. Sample type column

   a. Place N/A or dashes (---) in both "reported" line and "permit condition" line.

5. Quantity section

   a. Permit condition line

      1. Place dashes (---) in minimum space.
      2. Using federal permit enter average flow condition in average space and maximum condition in maximum space.

      Note: These conditions are the numbers in ( ) in the flow parameter.
      ***Flow - ~~m^3/day~~ (MGD) --- --- ~~757~~ (.2) ~~1892~~ (.5)

   b. Units column

      1. Enter MGD

   c. Reported line

      (See note below)

      1. Using the state monitoring enter the lowest, minimum flow recorded during the 3 month period in minimum space.

2. Enter the highest (maximum) flow recorded during the 3 month period in maximum space.

3. Enter average flow of the 3 month period in average space.

Note: By finding the minimum flow, the maximum flow and average flow using the 3 state monitoring forms, divide each value by 1,000. The result is minimum flow, maximum flow and average flow in MGD units.

$$\frac{\text{Flow in 1,000's GPD}}{1{,}000} = \text{MGD}$$

Example: Assume the minimum flow from the state report indicated 190 (1,000's GPD) by dividing by 1,000, the value of .190 MGD is obtained.

d. No. Ex. (Number of Exceptions)

1. Enter in "reported" line the number of times the plant flow exceeded the maximum flow condition required by permit. If none, enter zero.

2. Enter dashes (---) in "permit condition" line. Usually this space is blacked out.

Parameter		Quantity					Concentration					Frequency of Analysis	Sample Type
Flow		Minimum	Average	Maximum	Units	No. Ex.	Minimum	Average	Maximum	Units	No. Ex.		
	Reported	.190	231	290	MGD	0	---	---	---	---	---	cont.	N/A
	Permit Condition											daily	---

C. PH Data

1. Parameter column

   a. Record PH
   b. Sample location by number
   c. Sample location by description

   Note: 1 a and 1 b are located in federal permit

1. Concentration Section

   a. Place dashes in corresponding spaces "reported line", permit condition, units, and no. ex.

Parameter	Concentration					
	Minimum		Average	Maximum	Units	No. Ex.
PH 3	---	---	---	---	---	
Final Effluent	---		---	---	---	

2. "Frequency of Analysis" Column

   a. "Reported" Line

      1. Using State monitoring reports, count the number of PH tests performed in one week. Ex: If PH test was run 7 days in one week, then record 7/7. If the test was once per week, record 1/7.

   b. "Permit Condition" Line

      1. Enter required frequency of analysis as specified in Federal permit. Usually requirement is daily, then record 7/7.

   NOTE: RECORD THE FREQUENCY THE PH TEST WAS RUN EVEN THOUGH THE FEDERAL PERMIT REQUIREMENT IS LOWER THAN THE FREQUENCY TESTED. EX: IF PH TEST WAS RUN 5/7, BUT FEDERAL PERMIT REQUIRED ONLY 2/7, RECORD 5/7 AND BASE ALL REQUIRED INFORMATION ON THE 5/7 FREQUENCY.

3. "Sample Type" Column

   a. Use grab for both "reported" line and "permit condition" line.

   NOTE: PH SHOULD ALWAYS BE RUN ON GRAB SAMPLES.

4. "Quantity" Section

   a. Place dashes in the average spaces for both "reported" line and "permit condition" line.

   b. "Units" Column

      1. Record SU (Standard Units)

c. "Permit Condition" Line

1. Minimum space record 6.5 or the value indicated in permit.
2. Maximum space record 9.0 or the value indicated in permit.

d. "Reported" Line

1. Using State monitoring forms, record the lowest (minimum) PH obtained for the 3 reporting months.
2. Using State monitoring forms, record the highest (maximum) PH obtained for the 3 reporting months.

e. No. Ex. (Number of Exceptions)

1. "Reported Line"

   a. The total number of times the PH exceeded the maximum allowed by federal permit, and the total number of times the PH was lower than the minimum allowed by federal permit.

2. "Permit Condition" Line

   a. Place dashes if not blocked.

PH Final Effluent 3	Reported	7.1	---	7.9	Standard Units	0	---	---	---	---	---	---	---	---	---	7/7	Grab
	Permit Condition	6.5	---	9.0			---	---	---	---	---	---	---	---	---	7/7	Grab

D. BOD_5 Data

1. In parameter space enter:

   a. BOD_5
   b. Sample location number
   c. Sample location

2. Concentration section

   a. "Permit condition" line

      1. Enter the average and maximum concentration specified by federal permit.
      2. Enter dashes (---) in minimum space.

   b. "Reported" line

      1. Enter minimum (lowest) concentration (mg/l) of BOD_5 in the three months of BOD_5 tests that have been performed.
      2. Enter average concentration (mg/l) of BOD_5 in the three months of BOD_5 analysis that have been performed.
      3. Enter maximum (highest) concentration (mg/l) of BOD_5 in the three months of BOD_5 analysis that have been performed.

   c. "Units" column

      1. Enter mg/l

   d. No. Ex. (Number of Exceptions)

      1. "Permit condition" line

         a. Enter dashes

      2. "Reported" line

         a. Enter the number of times the maximum concentration value was exceeded for the reporting period (3 months). If none, enter zero.

3. Frequency of analysis

   a. "Permit condition" line

      1. Enter frequency of analysis specified by federal permit (2/7, 4/7, 1/30, 1/90).

   b. "Reported" line

      1. Enter frequency of tests used to calculate average BOD_5. Example: If the 24 hr. composite sample is used to calculate the average BOD_5 then frequency is 1/30. If the weekly analysis is used then frequency is 2/7, 4/7 etc., depending on weekly frequency.

4. Sample type

   a. "Permit condition" line

      1. Enter sample type specified by federal permit (composite, grab, 24 hr. composite).

   b. "Reported" line

      1. Enter sample type used for analysis (grab, 6 or 8 hr. composite, 24 hr. composite).

5. "Quantity" section

   a. "Permit condition" line

      1. Enter dashes (---) in minimum space.
      2. Enter average and maximum quantity specified by federal permit.

      Note: The average and maximum values are the values in ( ) in the permit.

Wastewater Parameter	~~kg/day~~ (lbs/day) Daily Ave.	Max.
***Biochemical Oxygen Demand (5-day)	~~109~~ (241)	~~126~~ (283)

   b. "Reported" line

      1. Enter minimum lbs/day of BOD_5 in minimum space.
      2. Enter average lbs/day of BOD_5 in average space.
      3. Enter maximum lbs/day of BOD_5 in maximum space.

   c. "Units" column

      1. Enter lbs/day

   d. No. Ex. (Number of exceptions)

      1. "Permit condition" line

         a. Enter dashes (---)

      2. "Reported condition" line

         a. Enter number of times the lbs/day of BOD_5 exceeded the maximum value specified by the federal permit. If none, enter zero.

E. Percent Removal BOD_5

1. Calculate the percent BOD_5 removal for each pair of influent and effluent analyses made during the reporting period.

$$\frac{\text{Influent } BOD_5 - \text{Effluent } BOD_5}{\text{Influent } BOD_5} \times 100 = \% \text{ Removal}$$

Note: Use either mg/l or lbs/day values.

2. In parameter space

   a. Enter percent removal BOD_5

3. Concentration section

   a. Enter dashes (---) in reported line, permit condition line, units, and No. Ex.

4. Frequency of analysis

   a. Enter dashes (---) in reported line and permit condition line.

5. Sample type

   a. Enter dashes (---) in reported line and permit condition line.

6. Quantity section

   a. "Permit condition" line

      1. Enter 85% in average space
      2. Enter dashes (---) in minimum and maximum spaces.

   b. "Reported" line

      1. Enter minimum percent removal of BOD_5
      2. Enter average percent removal of BOD_5
      3. Enter maximum percent removal of BOD_5

   c. "Units" column

      1. Enter %

   d. No. Ex. (Number of Exceptions)

      1. "Permit condition" line

         a. Enter dashes (---).

      2. "Reported" line

         a. Enter number of times the average percent removal 85%, was not achieved. Enter zero if none.

DIFFERENT BOD_5 REPORTING EXAMPLES

Parameter		Quantity					Concentration					Frequency of Analysis	Sample Type
		Minimum	Average	Maximum	Units	No Ex.	Minimum	Average	Maximum	Units	No. Ex.		
BOD_5 1 Influent	Reported	269	359	445	lbs/day	---	164	185	232	mg/l	---	2/7	8 hr.comp.
	Permit Condition	---	---	---		---	---	---	---		---	2/7	Comp.
BOD_5 2 Effluent	Reported	32	53	66	lbs/day	0	19	35	60	mg/l	1	2/7	8 hr.comp.
	Permit Condition	---	125	188		---	---	30	45		---	2/7	Comp.
BOD_5 1 Influent	Reported	---	335	---	lbs/day	0	---	181	---	mg/l	0	1/90	8 hr.comp.
	Permit Condition	---	---	---		---	---	---	---		---	1/90	Comp.
BOD_5 3 Final Effluent	Reported	51	58	65	lbs/day	0	28	30	33	mg/l	0	1/30	8 hr.comp.
	Permit Condition	---	50	75		---	---	30	45		---	1/30	Comp.

F. Suspended Solids (S.S.) data

1. In parameter space enter

   a. S.S.
   b. Sample location number
   c. Sample location

2. Concentration section

   a. "Permit condition" line

      1. Enter the average and maximum concentration specified by federal permit.
      2. Enter dashes (---) in minimum space.

   b. "Reported" line

      1. Enter minimum (lowest) concentration (mg/l) of S.S. in the three months of S.S. tests that have been performed.
      2. Enter average concentration (mg/l) of S.S. in the three months of S.S. analysis that have been performed.
      3. Enter maximum (highest) concentration (mg/l) of S.S. in the three months of S.S. analysis that have been performed.

   c. "Units" column

      1. Enter mg/l

   d. No. Ex. (Number of Exceptions)

      1. "Permit condition" line

         a. Enter dashes

      2. "Reported" Line

         a. Enter the number of times the maximum concentration value was exceedef for the reporting period (3 months). If none, enter zero.

3. Frequency of analysis

   a. "Permit condition" line

      1. Enter frequency of analysis specified by federal permit (2/7, 4/7, 1/30, 1/90).

   b. "Reported" line

      1. Enter frequency of tests used to calculate average S.S. Example: If the 24 hr. composite sample is used to calculate the average S.S. then frequency is 1/30. If the weekly analysis is used, then frequency is 2/7, 4/7 etc., depending on weekly frequency.

_ 4. Sample type

a. "Permit condition" line

1. Enter sample type specified by federal permit (composite, grab, 24 hr. composite.)

b. "Reported" line

1. Enter sample type used for analysis (grab, 6 or 8 hr. composite, 24 hr. composite.)

5. Quantity section

a. "Permit condition" line

1. Enter dashes (---) in minimum space.
2. Enter average and maximum quantity specified by federal permit.

Note: The average and maximum values are the values in ( ) in the permit.

Wastewater Parameter	~~kg/day~~ (lbs/day) Daily Ave.	Max.
***Suspended Solids	~~71~~ (158)	~~90~~ (293)

b. "Reported" line

1. Enter minimum lbs/day of S.S. in minimum space.
2. Enter average lbs/day of S.S. in average space.
3. Enter maximum lbs/day of S.S. in maximum space.

c. "Units" column

1. Enter lbs/day

d. No. Ex. (Number of Exceptions)

1. "Permit condition" line

a. Enter dashes (---)

2. "Reported" line

a. Enter number of times the lbs/day of S.S. exceeded the maximum value specified by the federal permit. If none, enter zero.

G. Percent Removal of Suspended Solids (S.S.)

1. Calculate the percent S.S. removal for each pair of influent and effluent analyses made during the reporting period.

$$\frac{\text{Influent S.S.} - \text{Effluent S.S.}}{\text{Influent S.S.}} \times 100 = \% \text{ Removal}$$

Note: Use either mg/l or lbs/day values

2. In parameter space

   a. Enter percent removal S.S.

3. Concentration section

   a. Enter dashes (---) in "reported" line, "permit condition" line, units and No. Ex.

4. Frequency of analysis

   a. Enter dashes (---) in "reported" line and "permit condition" line.

5. Sample type

   a. Enter dashes (---) in "reported" line and "permit condition" line.

6. Quantity section

   a. "Permit condition" line

      1. Enter 85% in average space
      2. Enter dashes (---) in minimum and maximum spaces

   b. "Reported" line

      1. Enter minimum percent removal of S.S.
      2. Enter average percent removal of S.S.
      3. Enter maximum percent removal of S.S.

   c. "Units" column

      1. Enter %

   d. No. Ex. (Number of Exceptions)

      1. "Permit condition" line

         a. Enter dashes (---)

      2. "Reported" line

         a. Enter number of times the average percent removal 85%, was not achieved. Enter zero, if none.

DIFFERENT SUSPENDED SOLIDS REPORTING EXAMPLES

Parameter		Quantity				No. Ex.	Concentration				No. Ex.	Frequency of Analysis	Sample Type
		Minimum	Average	Maximum	Units		Minimum	Average	Maximum	Units			
S.S. Influent 1	Reported	---	300	---		0	---	162	---		0	1/90	8 hr.comp
	Permit Condition	---	---	---	lbs/day	---	---	---	---	mg/l	---	1/90	Comp.
S.S. Final Effluent 3	Reported	15	38	53		0	8	20	28		0	1/30	8 hr.comp
	Permit Condition	---	50	75	lbs/day	---	---	30	45	mg/l	---	1/30	Comp.

S.S. Influent 1	Reported	212	300	354		---	112	141	185		---	2/7	8 hr.comp
	Permit Condition	---	---	---	lbs/day	---	---	---	---	mg/l	---	2/7	Comp.
S.S. Effluent 2	Reported	19	35	50		0	8	18	29		0	2/7	8 hr.comp
	Permit Condition	---	125	188	lbs/day	---	---	30	45	mg/l	---	2/7	Comp.

H. FECAL COLIFORM DATA

1. Refer to EPA Manual 430/1 74-011 Self-Monitoring Procedures for Basic Parameters for Municipal Effluents, Section 15 - 22 & 23.

I. Completion of Form

1. Enter (print) name of principal executive officer.

Note: The person could be the mayor, city manager, council president, clerk, public works manager, plant superintendent, city engineer, plant operator.

REMEMBER THAT IT IS THE TOWN THAT HAS THE PERMIT AND NOT THE OPERATOR.

2. Enter title.

3. Enter year, month, day report is prepared.

4. Signature of principal executive officer or authorized agent.

Note: The person who prepared the report should sign the form.

5. Enter number of pages the total discharge monitoring report is. Example: If all requirements are one page, enter Page 1 of 1. If all requirements are on 2 pages, enter Page 1 of 2; the second page, Page 2 of 2.

Name of principal officer	Title of Officer	Date		
Koundakjian, Philip R.	Instructor	7/5	0/8	0/4
Last First	Title	Year	Mo.	Day

Signature

Page of

6. Check the completed form over. Make sure all spaces have either information or dashes (---).

7. Make 4 copies of the report. One report mail to Kansas City. Address: EPA, 1735 Baltimore Avenue, Kansas City, Missouri, 64108.

One report mail to Iowa DEQ. Address: 3920 Delaware Avenue, P. O. Box 3326, Des Moines, Iowa, 50316.

One report file in Town Hall.

One report file in plant office.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

DISCHARGE MONITORING REPORT

Form Approved
OMB NO. 158-R0073

STATE	PERMIT NUMBER	DIS	SIC	LATITUDE	LONGITUDE
IA	00035891	001	4952		

REPORTING PERIOD FROM 75 05 01 (YEAR MO DAY) TO 75 07 31 (YEAR MO DAY)

INSTRUCTIONS

1. Provide dates for period covered by this report in spaces marked "REPORTING PERIOD".
2. Enter reported minimum, average and maximum values under "QUANTITY" and "CONCENTRATION" in the units specified for each parameter as appropriate. Do not enter values in boxes containing asterisks. "AVERAGE" is average computed over actual time discharge is operating. "MAXIMUM" and "MINIMUM" are extreme values observed during the reporting period.
3. Specify the number of analyzed samples that exceed the maximum (and/or minimum as appropriate) permit conditions in the columns labeled "No. Ex." If none, enter "0".
4. Specify frequency of analysis for each parameter as No. analyses/No. days. (e.g., "3/7" is equivalent to 3 analyses performed every 7 days.) If continuous enter "CONT."
5. Specify sample type ("grab" or "__ hr. composite") as applicable. If frequency was continuous, enter "NA".
6. Appropriate signature is required on bottom of this form.
7. Remove carbon and retain copy for your records.
8. Fold along dotted lines, staple and mail Original to office specified in permit.

PARAMETER		(3 used only) QUANTITY MINIMUM	AVERAGE	MAXIMUM	UNITS	NO. EX	(4 used only) CONCENTRATION MINIMUM	AVERAGE	MAXIMUM	UNITS	NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
Flow	REPORTED	.190	.231	.290	MGD	0	---	---	---	---	--	cont.	N/A
	PERMIT CONDITION	---	.500	.750			---	---	---	---	--	Daily	---
PH 2 Effluent	REPORTED	8.1	---	8.9	SU	0	---	---	---	---	--	7/7	Grab
	PERMIT CONDITION	6.5	---	9.0			---	---	---	---	--	7/7	Grab
PH 4 Digester	REPORTED	6.3	---	6.8	SU	--	---	---	---	---	--	7/7	Grab
	PERMIT CONDITION	---	---	---		--	---	---	---	---	--	7/7	Grab
BODs 1 Influent	REPORTED	269	359	445	lbs/day	--	164	185	232	Mg/L	--	2/7	8 hr/comp
	PERMIT CONDITION	---	---	---		--	---	---	---		--	2/7	Comp
BODs 2 Effluent	REPORTED	32	53	66	lbs/day	0	19	35	60	Mg/L	1	2/7	8 hr/comp
	PERMIT CONDITION	---	125	188		--	---	30	45		--	2/7	Comp
Suspended Solids 1 Influent	REPORTED	212	300	354	lbs/day	--	112	141	185	Mg/L	--	2/7	8 hr/comp
	PERMIT CONDITION	---	---	---		--	---	---	---		--	2/7	Comp
Suspended Solids 2 Effluent	REPORTED	19	35	50	lbs/day	0	8	18	29	Mg/L	0	2/7	8 hr/comp
	PERMIT CONDITION	---	125	188		--	---	30	45		--	2/7	Comp
	REPORTED												
	PERMIT CONDITION												

NAME OF PRINCIPAL EXECUTIVE OFFICER	TITLE OF THE OFFICER	DATE	I certify that I am familiar with the information contained in this report and that to the best of my knowledge and belief such information is true, complete, and accurate.	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT
Koundakjian, Philip R.	Instructor	75 08 07		
LAST FIRST MI	TITLE	YEAR MO DAY		

EPA Form 3320-1 (10-73)

PAGE OF

ORIGINAL

76

77

99

Attached are: -

3 Operation Permit System
Monthly Monitoring Report
For the month of January, February & March of 1977

2 EPA Forms 3320-1

3 Composite (24 hr.) sample tests results p-rformed
by a commercial laboratory

NOTE: The flow of the day when the samples were taken are from 8:00 a.m. to 8:00 a.m which is when you have taken total flow readings and changed the chart.

YOU ARE TO:

1. Complete the monthly monitoring report
   a. Facility number
   b. Discharge serial number
   c. Influent 24 hour sample collection
   d. Effluent 24 hour sample collection
2. Complete the Federal EPA Form (3320-1)

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS - FINAL

Permit No. IA-0022012

2. During the period beginning on December 2, 1976, and lasting through the expiration date, permittee is authorized to discharge from outfall Serial No. 001 (new or upgraded facilities).

Such discharges shall be limited and monitored by the permittee as specified:

	Effluent Limitations				Minimum Monitoring Requirements		
Wastewater Parameter	kg/day (lbs/day) Daily Ave.	Max.	Other Units (Specify) Daily Ave.	Max.	Measurement Frequency	Sample Type	Sample Location
***Biochemical Oxygen Demand (5-day)	23 (50)	34 (75)	30 mg/l	45 mg/l	1/30	composite	2
					1/30	composite	1
**EQAP	---	---	---	---	monthly	grab	2
***Suspended Solids	23 (50)	34 (75)	30 mg/l	45 mg/l	1/30	composite	2
					1/30	composite	1
***Flow m^3/day (MGD)	---	---	681 (.18)	1135.5 (.3)	1/30	---	1
***pH	6.5-9.0	(not to be averaged)			daily	grab	2
***Fecal Coliform organisms/100 ml	---	---	200	400 (weekly average	1/7	grab	2
Temperature	---	---	---	---	daily	grab	1
Settleable Solids	---	---	---	---	daily	grab	1. 2

The arithmetic mean of the values for effluent samples measuring biochemical oxygen demand (5-day) and suspended solids collected in a period of 30 consecutive days shall not exceed 15 percent of the arithmetic mean of the values for influent samples collected at approximately the same times during the same period (85 percent removal--minimum).

There shall be no discharge of floating or settleable substances in other than trace amounts.
*Samples taken in compliance with the monitoring requirements specified above shall be taken at the following locations: (1) raw sewage influent to sewage treatment plant (2) final effluent from new facility.

** Sample submitted for the Effluent Quality Analysis Program (EQAP) conducted in accordance with Chapter 18 of the Rules of the Iowa Department of Environmental Quality (1973 I.D.R.).

***Only these monitoring data shall be summarized and reported to the Environmental Protection Agency.

February 4, 1977

Dear Sir:

These are laboratory results of samples submitted to us for analysis for the month of January. The sample was put into service from 8:00 a.m. on the 13th of the month.

Raw	
BOD_5	205
S. S.	125
Ammonia Nitrogen	18
Final	
BOD_5	36
S. S.	31
Ammonia Nitrogen	16

March 7, 1977

Dear Sir:

These are laboratory results of samples submitted to us for analysis for the month of February. The sample was put into service from 8:00 a.m. on the 17th of the month.

Raw	
BOD_5	172
S. S.	168
Ammonia Nitrogen	20
Final	
BOD_5	22
S. S.	48
Ammonia Nitrogen	12

April 15, 1977

Dear Sir:

These are laboratory results of samples submitted to us for analysis for the month of March. The sampler was put into service from 8:00 a.m. on the 25th of the month.

Raw	
BOD_5	195
S. S.	158
Ammonia Nitrogen	17
Final	
BOD_5	25
S. S.	28
Ammonia Nitrogen	11

STATE OF IOWA
DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY MANAGEMENT DIVISION

OPERATION PERMIT SYSTEM
MONTHLY MONITORING REPORT

January (MONTH) 1977 (YEAR)

FACILITY NAME _____
FACILITY NUMBER — — — — — — —
DISCHARGE SERIAL NUMBER — — —

CP-869706 7 75

DATE	RECEIVING STREAM FLOW-CFS	PRECIPITATION INCHES/DAY	GENERAL: RAW SEWAGE TEMPERATURE	GENERAL: TOTAL FLOW 1,000'S GPD	GENERAL: BY-PASSED 1,000'S GPD	GENERAL: RECIRCULATION 1,000'S GPD	RAW SLUDGE: GALLONS PUMPED 100'S GPD	RAW SLUDGE: TOTAL SOLIDS %	RAW SLUDGE: VOLATILE SOLIDS %	DIGESTER CONTENTS: TEMPERATURE °F	DIGESTER CONTENTS: pH	DIGESTER CONTENTS: VOLATILE ACIDS MG/L	DIGESTER CONTENTS: ALKALINITY MG/L	DIGESTED SLUDGE: TOTAL SOLIDS %	DIGESTED SLUDGE: VOLATILE SOLIDS %	DIGESTED SLUDGE: DISPOSAL VOLUME UNIT	BOD (5 DAY 20°C): INFLUENT MG/L	BOD: INFLUENT LBS/DAY	BOD: PRIMARY EFFLUENT MG/L	BOD: FILTER EFFLUENT MG/L	BOD: FINAL EFFLUENT MG/L	BOD: FINAL EFFLUENT LBS/DAY	SUSPENDED SOLIDS: INFLUENT MG/L	SUSPENDED SOLIDS: INFLUENT LBS/DAY	SUSPENDED SOLIDS: PRIMARY EFFLUENT MG/L	SUSPENDED SOLIDS: FILTER EFFLUENT MG/L	SUSPENDED SOLIDS: FINAL EFFLUENT MG/L	SUSPENDED SOLIDS: FINAL EFFLUENT LBS/DAY	SETTLEABLE SOLIDS ML/L: INFLUENT	SETTLEABLE SOLIDS ML/L: PRIMARY EFFLUENT	SETTLEABLE SOLIDS ML/L: FILTER EFFLUENT	SETTLEABLE SOLIDS ML/L: FINAL EFFLUENT	AMMONIA NITROGEN: INFLUENT MG/L	AMMONIA NITROGEN: INFLUENT LBS/DAY	AMMONIA NITROGEN: FINAL EFFLUENT MG/L	AMMONIA NITROGEN: FINAL EFFLUENT LBS/DAY	pH: INFLUENT	pH: FINAL EFFLUENT MG/L	EFFLUENT DISSOLVED OXYGEN MG/L	EFFLUENT FECAL COLIFORM NO./100ml	EFFLUENT RESIDUAL CHLORINE MG/L	
1				138		5.1	7.9			98																		9	2	18					6.8	7.6				
2				145		5.2	7.8			98																		8	1	20					6.9	7.4				
3	5		80	129		5.1	7.4	5.5	68.2	97	6.9	140	2010				200		110		30		60		78		20		8	1	24		16		12		6.8	7.6	4	TNC		
4	8	.01	62	248		5.1	7.6	5.0	61.5	98	6.8	135	2210				245		141		29		38		74		19		9	2	22		15		13		6.8	7.6	4			
5	7	.01	80	195		5.1	7.8	5.4	62.5	98	6.2	138	2150				262		131		26		32		75		16		10	2	21		13		11		6.8	7.5	4			
6	8		60	200		5.1	7.4	5.3	62	98	6.1	139	2168				281		121		28		165		65		24		8	1	19		14		12		6.8	7.5	4			
7	5		58	135		5.1	7.8	5.4	62	98	6.0	145	2251	3.5	44	30	210		132		25		141		100		14		4	1	14		15		14		6.9	7.8	4			
8				128		5.8	7.4			97																		8	1	20					6.9	7.4				
9				129		5.1	7.4			98																		8	1	19					6.8	7.6				
10	12	.9	72	565	105	5.1	7.8	2.9	72	98	6.1	162	2194				145		98		15		152		120		15		5	1	18		16		14		7.0	7.6	4	TNC		
11	8	.1	65	211		5.1	7.8	4.8	72	98	6.2	145	2019				192		111		17		161		140		17		9	.5	17		15		15		6.5	7.6	5			
12	9	.15	68	235		5.1	7.4	4.9	72	99	5.1	145	2038				183		135		21		142		98		18		8	8	19		17		16		6.9	8.2	4			
13	10	.4	68	240		5.1	7.6	5.3	72	99	6.5	148	2075				215		140		35		145		99		30		7	1	21		18		16		6.8	8.5	3			
14	7		58	211		5.1	7.7	5.7	72	98	6.8	147	2061	3.8	48	20	214		114		45		151		95		40		6	2	22		19		14		6.7	7.6	4			
15				179		5.1	7.8			98																		4	.5	21					6.5	7.4				
16				167		5.1	7.9			98																		5	.7	21					6.4	7.9				
17	5		60	135		5.1	7.8	5.8	73	98	6.9	138	2200				201		136		12		141		83		45		5	1.5	20		18		16		6.9	7.6	4	TNC		
18	4		62	142		5.1	7.8	5.6	72	98	6.8	139	2145				212		131		7		152		88		12		9	.5	20		14		12		6.8	7.9	4			
19	5		60	141		5.1	7.8	5.5	72	98	6.4	140	2182				221		119		8		138		91		10		10	.7	21		17		15		6.8	8.4	4			
20	6		60	128		5.8	7.8	5.4	72	99	6.5	145	2061				232		129		14		163		86		7		12	.8	22		14		14		6.7	8.4	5			
21	5		61	156		5.1	7.9	5.6	72	98	6.8	142	2021	3.2	48	20	227		126		18		145		95		15		14	1.0	21		15		15		6.7	8.5	4			
22				158		5.1	7.4			97																		10	1.5	20					6.8	8.5				
23				178		5.1	7.4			97																		11	2.0	21					6.8	8.1				
24	7		58	184		5.1	7.4	6.2	70	98	6.5	148	2089				199		115		19		149		75		12		12	1	22		16		16		6.7	8.0	3	TNC		
25	9	.15	59	222		5.1	7.4	6.3	70	98	6.5	165	2074				185		122		22		148		79		18		8	1.2	21		12		10		6.5	7.9	5			
26	8	.01	62	214		5.1	7.4	6.6	68	98	6.4	158	2014				251		109		28		163		84		20		10	2.0	19		14		9		6.4	7.6	4			
27	6		64	195		5.1	7.4	6.1	65	98	6.4	154	2009				214		117		29		133		95		25		11	.8	18		19		15		6.9	7.9	4			
28	7		63	185		5.1	7.8	6.4	65	98	6.5	144	2111	3.3	52	20	241		108		31		139		99		30		14	.9	17		19		17		7.1	7.8	1			
29				172		5.1	7.8			98																		14	1.1	19					6.7	7.6				
30				184		5.1	7.6			98																		11	1.8	18					6.7	7.5				
31	5		64	165		5.1	7.7	5.7	68	98	6.7	131	2134				214		109		30		155		80		25		9	.5	17		19		18		6.7	7.0	4	TNC		
TOTAL																																										
AVG.																																										
MAX.																																										
MIN.																																										
CODE			703	703	775		700									700	700	700			700	700	700	700			700	700	741			741	704	704	704	704	701	701	702	703	703	
CODE			000	000	001		000									000	000	000			001	001	000	000			001	001	000			001	000	000	001	001	000	001	001	001	001	

INFLUENT 24 HOUR SAMPLE COLLECTION [000]

BOD$_5$ _____ MG/L _____ LBS/DAY [78034]
SUSPENDED SOLIDS _____ MG/L _____ LBS/DAY [74034]
AMMONIA NITROGEN _____ MG/L _____ LBS/DAY [78424]
FLOW _____ MILLION GALLONS/DAY [74334]

EFFLUENT 24 HOUR SAMPLE COLLECTION [001]

BOD$_5$ _____ MG/L _____ LBS/DAY [78034]
SUSPENDED SOLIDS _____ MG/L _____ LBS/DAY [74034]
AMMONIA NITROGEN _____ MG/L _____ LBS/DAY [78424]
FECAL COLIFORM _____ ORGANISMS/100 ML [74334]

_____ SIGNATURE OF EXECUTIVE OFFICER OR AGENT

_____ TITLE

FORM WQMD-VI TRICKLING FILTER

STATE OF IOWA
DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY MANAGEMENT DIVISION

OPERATION PERMIT SYSTEM
MONTHLY MONITORING REPORT

February (MONTH) 1977 (YEAR)

FACILITY NAME _____

FACILITY NUMBER _ _ _ _ _ _ _

DISCHARGE SERIAL NUMBER _ _ _

DATE	RECEIVING STREAM FLOW-CFS	PRECIPITATION INCHES/DAY	GENERAL: RAW SEWAGE TEMPERATURE	GENERAL: TOTAL FLOW 1,000'S GPD	GENERAL: BY-PASSED 1,000'S GPD	GENERAL: RECIRCULATION 1,000'S GPD	RAW SLUDGE: GALLONS PUMPED 100'S GPD	RAW SLUDGE: TOTAL SOLIDS %	RAW SLUDGE: VOLATILE SOLIDS %	DIGESTER CONTENTS: TEMPERATURE °F	DIGESTER CONTENTS: pH	DIGESTER CONTENTS: VOLATILE ACIDS MG/L	DIGESTER CONTENTS: ALKALINITY MG/L	DIGESTED SLUDGE: TOTAL SOLIDS %	DIGESTED SLUDGE: VOLATILE SOLIDS	DIGESTED SLUDGE: DISPOSAL VOLUME LIMIT	BOD (5 DAY 20°C): INFLUENT MG/L	BOD: INFLUENT LBS/DAY	BOD: PRIMARY EFFLUENT MG/L	BOD: FILTER EFFLUENT MG/L	BOD: FINAL EFFLUENT MG/L	BOD: FINAL EFFLUENT LBS/DAY	SUSPENDED SOLIDS: INFLUENT MG/L	SUSPENDED SOLIDS: INFLUENT LBS/DAY	SUSPENDED SOLIDS: PRIMARY EFFLUENT MG/L	SUSPENDED SOLIDS: FILTER EFFLUENT MG/L	SUSPENDED SOLIDS: FINAL EFFLUENT MG/L	SUSPENDED SOLIDS: FINAL EFFLUENT LBS/DAY	SETTLEABLE SOLIDS ML/L: INFLUENT	SETTLEABLE SOLIDS ML/L: PRIMARY EFFLUENT	SETTLEABLE SOLIDS ML/L: FILTER EFFLUENT	SETTLEABLE SOLIDS ML/L: FINAL EFFLUENT	AMMONIA NITROGEN: INFLUENT MG/L	AMMONIA NITROGEN: INFLUENT LBS/DAY	AMMONIA NITROGEN: FINAL EFFLUENT MG/L	AMMONIA NITROGEN: FINAL EFFLUENT LBS/DAY	pH: INFLUENT	pH: FINAL EFFLUENT MG/L	EFFLUENT DISSOLVED OXYGEN MG/L	EFFLUENT NITRATE NITROGEN MG/L	EFFLUENT NITRITE NITROGEN MG/L	EFFLUENT TOTAL PHOSPHATE MG/L
1				138		5.1	7.9			98																			9	2	18					6.8	7.6				
2				145		5.2	7.8			98																			8	1	20					6.9	7.4				
3	5		80	129		5.1	7.4	5.5	68.2	97	6.9	140	2010				200		110		30		150		78		20		8	1	24		14		12		6.8	7.6	4	TNC		
4	8	.01	62	248		5.1	7.6	5.0	61.5	98	6.8	135	2210				245		141		29		138		74		19		9	2	22		15		13		6.8	7.6	4			
5	7	.01	60	195		5.1	7.8	5.4	62.5	98	6.2	138	2150				262		131		26		132		75		16		10	2	21		13		11		6.8	7.5	4			
6	8		60	200		5.1	7.4	5.3	62	98	6.1	139	2168				281		121		28		165		65		24		8	1	19		14		12		6.8	7.5	4			
7	5		58	135		5.1	7.8	5.4	62	98	6.0	145	2251	3.5	44	30	210		132		25		141		100		14		4	1	14		15		14		6.9	7.8	4			
8				186		5.8	7.4			97																			3	1	22						6.9	7.4				
9				129		5.1	7.4			98																			8	1	19						6.8	7.6				
10	12	.9	72	565	105	5.1	7.8	2.9	72	98	6.1	162	2194				145		98		15		152		120		15		5	1	16		16		14		7.0	7.6	3	TNC		
11	8	.1	65	211		5.1	7.8	4.8	72	98	6.2	145	2019				192		111		17		161		140		17		9	.5	17		15		15		6.5	7.6	5			
12	9	.15	68	235		5.1	7.4	4.9	72	99	5.1	145	2038				183		135		21		142		98		18		8	8	19		17		16		6.9	8.2	4			
13	10	.4	68	165		5.1	7.6	5.3	72	99	6.5	148	2075				215		140		35		145		99		30		7	1	21		18		16		6.8	9.2	3			
14	7		55	211		5.1	7.7	5.7	72	98	6.8	147	2061	3.8	48	20	214		114		45		151		95		40		6	2	22		19		14		6.7	7.6	4			
15				179		5.1	7.8			98																			4	.5	21						6.5	7.4				
16				167		5.1	7.9			98																			5	.7	21						6.4	7.9				
17	5		60	125		5.1	7.4	5.8	73	98	6.9	138	2001				182		146		12		158		74		45		5	.6	26		18		16		6.9	7.6	4	TNC		
18	4		62	135		5.1	7.4	5.6	72	98	6.8	139	2642				258		121		7		173		88		12		9	2.3	15		14		12		6.8	7.9	4			
19	5		60	141		5.1	7.8	5.5	72	98	6.4	140	2182				221		119		8		138		91		10		10	.7	21		17		15		6.8	8.4	4			
20	6		60	128		5.8	7.8	5.4	72	99	6.5	145	2061				232		129		14		163		85		7		12	.8	22		14		14		6.7	8.4	5			
21	5		61	156		5.1	7.9	5.6	72	98	6.8	142	2021	3.2	48	20	227		126		18		145		95		15		14	1.6	21		15		15		6.7	8.5	4			
22				158		5.1	7.4			97																			10	1.9	20						6.8	8.5				
23				178		5.1	7.4			97																			11	2.0	21						6.8	8.1				
24	7		58	125		5.1	7.4	6.2	70	98	6.5	148	2089				200		115		48		149		75		46		12	1	22		16		14		6.2	9.3	3	TNC		
25	9	.15	59	222		5.1	7.4	6.3	70	98	6.5	165	2074				185		122		22		148		79		18		8	1.7	21		12		10		6.5	7.9	5			
26	8	.01	62	214		5.1	7.4	6.6	68	98	6.4	158	2014				251		109		28		163		84		20		10	1.7	22		14		9		6.4	7.6	4			
27	6		65	254		5.1	7.4	6.1	65	98	6.4	154	2215				218		119		29		148		100		25		11	1.7	21		19		15		6.9	9.1	4			
28			68	185		5.1	7.8	6.4	65	98	6.5	144	2111	3.3	52	20	241		108		31		139		99		30		14	.9	17		19		17		7.1	7.8	1			
29																																										
30																																										
31																																										
TOTAL																																										
AVG.																																										
MAX.																																										
MIN.																																										
CODE			703	703	775		700									700	708	760			760	760	740	740			740	740	741			741		704	704	704	704	701	701	702	703	703	
CODE			000	000	001		000									000	000	000			001	001	000	000			001	001	000			001		000	000	001	001	000	001	001	001	001	

INFLUENT 24 HOUR SAMPLE COLLECTION [000]

BOD$_5$ _____ MG/L _____ LBS/DAY [78024]
SUSPENDED SOLIDS _____ MG/L _____ LBS/DAY [74024]
AMMONIA NITROGEN _____ MG/L _____ LBS/DAY [78424]
FLOW _____ MILLION GALLONS/DAY [74324]

EFFLUENT 24 HOUR SAMPLE COLLECTION [001]

BOD$_5$ _____ MG/L _____ LBS/DAY [78024]
SUSPENDED SOLIDS _____ MG/L _____ LBS/DAY [74024]
AMMONIA NITROGEN _____ MG/L _____ LBS/DAY [78424]
FECAL COLIFORM _____ ORGANISMS/100 ML [74324]

_____
SIGNATURE OF EXECUTIVE OFFICER OR AGENT

_____
TITLE

FORM WQMD-VI TRICKLING FILTER

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STATE OF IOWA
DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY MANAGEMENT DIVISION

OPERATION PERMIT SYSTEM
MONTHLY MONITORING REPORT

February (month) 1977 (year)

FACILITY NAME _____
FACILITY NUMBER — — — — — — —
DISCHARGE SERIAL NUMBER — — —

DATE	RECEIVING STREAM FLOW-CFS	PRECIPITATION INCHES/DAY	GENERAL: RAW SEWAGE TEMPERATURE	GENERAL: TOTAL FLOW 1,000'S GPD	GENERAL: BY-PASSED 1,000'S GPD	GENERAL: RECIRCULATION 1,000'S GPD	RAW SLUDGE: GALLONS PUMPED 100'S GPD	RAW SLUDGE: TOTAL SOLIDS %	RAW SLUDGE: VOLATILE SOLIDS %	DIGESTER CONTENTS: TEMPERATURE °F	DIGESTER CONTENTS: pH	DIGESTER CONTENTS: VOLATILE ACIDS MG/L	DIGESTER CONTENTS: ALKALINITY MG/L	DIGESTED SLUDGE: TOTAL SOLIDS %	DIGESTED SLUDGE: VOLATILE SOLIDS %	DIGESTED SLUDGE: DISPOSAL VOLUME UNIT	BOD (5 DAY 20°C): INFLUENT MG/L	BOD (5 DAY 20°C): INFLUENT LBS/DAY	BOD (5 DAY 20°C): PRIMARY EFFLUENT MG/L	BOD (5 DAY 20°C): FILTER EFFLUENT MG/L	BOD (5 DAY 20°C): FINAL EFFLUENT MG/L	BOD (5 DAY 20°C): FINAL EFFLUENT LBS/DAY	SUSPENDED SOLIDS: INFLUENT MG/L	SUSPENDED SOLIDS: INFLUENT LBS/DAY	SUSPENDED SOLIDS: PRIMARY EFFLUENT MG/L	SUSPENDED SOLIDS: FILTER EFFLUENT MG/L	SUSPENDED SOLIDS: FINAL EFFLUENT MG/L	SUSPENDED SOLIDS: FINAL EFFLUENT LBS/DAY	SETTLEABLE SOLIDS ML/L: INFLUENT	SETTLEABLE SOLIDS ML/L: PRIMARY EFFLUENT	SETTLEABLE SOLIDS ML/L: FILTER EFFLUENT	SETTLEABLE SOLIDS ML/L: FINAL EFFLUENT	AMMONIA NITROGEN: INFLUENT MG/L	AMMONIA NITROGEN: INFLUENT LBS/DAY	AMMONIA NITROGEN: FINAL EFFLUENT MG/L	AMMONIA NITROGEN: FINAL EFFLUENT LBS/DAY	pH: INFLUENT	pH: FINAL EFFLUENT MG/L	EFFLUENT DISSOLVED OXYGEN MG/L	EFFLUENT FECAL COLIFORM MPN / 100 ML	EFFLUENT RESIDUAL CHLORINE MG/L
1			—	130	—	5.1	7.9	—	—	98																		9	2	18					6.8	7.6			
2			—	145	—	5.2	7.8	—	—	98																		8	1	20					6.9	7.4			
3	5		60	129	—	5.1	7.4	5.5	68.2	97	6.9	140	2010				200		110		30		150		78		20		8	1	24		14		12		6.8	7.6	4	TNC	
4	8	.01	62	248	—	5.1	7.6	5.0	61.5	98	6.8	135	2210				245		141		29		138		74		19		9	2	22		15		13		6.8	7.6	4		
5	7	.01	60	195	—	5.1	7.8	5.4	62.5	98	6.2	138	2150				262		131		26		132		75		18		10	2	21		13		11		6.8	7.5	4		
6	8		60	200	—	5.1	7.4	5.3	62	98	6.1	139	2168				281		121		28		165		65		24		8	1	19		14		12		6.8	7.5	4		
7	5		58	135	—	5.1	7.8	5.4	62	98	6.0	145	2251	3.5	44	30	210		132		25		141		100		14		4	1	14		15		14		6.9	7.8	4		
8			—	186	—	5.8	7.4	"	"	97																		3	1	22					6.9	7.4			
9			—	129	—	5.1	7.4			98																		8	1	19					6.8	7.6			
10	12	.9	72	565	105	5.1	7.8	2.9	72	98	6.1	162	2194				145		98		15		152		120		15		5	1	18		16		14		7.0	7.6	4	TNC	
11	8	.1	65	211	—	5.1	7.8	4.8	72	98	6.2	145	2019				192		111		17		161		140		17		9	.5	17		15		15		6.5	7.6	5		
12	9	.15	68	235	—	5.1	7.4	4.9	72	99	5.1	145	2036				183		135		21		142		98		18		8	8	19		17		16		6.9	8.2	4		
13	10	.4	68	240	—	5.1	7.6	5.3	72	99	6.5	148	2075				215		140		35		145		99		30		7	1	21		18		16		6.8	8.5	3		
14	7		98	211	—	5.1	7.7	5.7	72	98	6.8	147	2061	3.8	48	20	214		114		46		151		95		40		6	2	22		19		14		6.7	7.6	4		
15			—	179	—	5.1	7.8			98																		4	.5	21					6.5	7.4			
16			—	167	—	5.1	7.9			98																		5	.7	21					6.4	7.9			
17	5		60	125	—	5.1	7.4	5.8	73	98	6.9	138	2003				182		146		12		158		74		45		5	.4	26		18		16		6.9	7.6	4	TNC	
18	4		62	135	—	5.1	7.4	5.6	72	98	6.8	139	2642	—	—	—	258		121		7		123		88		12		9	2.3	15		14		12		6.8	7.9	4		
19	5		60	141	—	5.1	7.8	5.5	72	98	6.4	140	2182				221		119		8		138		91		10		10	.7	21		17		15		6.8	8.4	4		
20	6		60	128	—	5.8	7.8	5.4	72	99	6.5	145	2061				232		129		14		183		85		7		12	.8	22		14		14		6.7	8.4	5		
21	5		61	156	—	5.1	7.9	5.6	72	98	6.8	142	2021	3.2	48	20	227		126		18		145		95		15		14	1.6	21		15		15		6.7	8.5	4		
22			—	158	—	5.1	7.4			97																		10	1.5	20					6.8	8.5			
23			—	178	—	5.1	7.4			97																		11	2.0	21					6.8	8.1			
24	7		58	184	—	5.1	7.4	6.2	70	98	6.5	148	2085				198		115		19		149		75		12		12	1	22		16		14		6.7	8.0	3	TNC	
25	9	.15	59	222	—	5.1	7.4	6.3	70	98	6.5	165	2074				185		122		22		148		79		18		8	1.7	21		12		10		6.5	7.9	5		
26	8	.01	62	214	—	5.1	7.4	6.6	68	98	6.4	158	2014				251		109		28		163		84		20		10	1.7	22		14		9		6.4	7.6	4		
27	6		64	254	—	5.1	7.4	6.1	65	98	6.4	154	2215				218		119		29		148		100		25		11	1.7	21		19		15		6.9	7.9	A		
28	7		63	185	—	5.1	7.8	6.4	65	98	6.5	144	2111	3.3	52	20	241		108		31		139		99		30		14	.9	17		19		17		7.1	7.8	1		
29			—	172	—	5.1	7.8			98																		14	1.1	19					6.7	7.6			
30			—	264	—	5.1	7.6			98																		11	1.5	18					6.7	7.5			
31	5		64	165	—	5.1	7.7	5.7	68	98	6.7	131	2134				214		109		30		155		80		25		9	.5	17		19		18		6.7	7.0	4	TNC	
TOTAL																																									
AVG.																																								
MAX.																																								
MIN.																																								
CODE			703	703	778		700									700	700	700			700	700	700	700			740	700	741				741	704	704	704	704	701	701	703	703	703
CODE			000	000	001		000									000	000	000			001	001	000	000			001	001	000				001	000	000	001	001	000	001	001	001	001

INFLUENT 24 HOUR SAMPLE COLLECTION [000]

BOD$_5$ _____ MG/L _____ LBS/DAY [78024]
SUSPENDED SOLIDS _____ MG/L _____ LBS/DAY [74024]
AMMONIA NITROGEN _____ MG/L _____ LBS/DAY [70424]
FLOW _____ MILLION GALLONS/DAY [74324]

EFFLUENT 24 HOUR SAMPLE COLLECTION [001]

BOD$_5$ _____ MG/L _____ LBS/DAY [78024]
SUSPENDED SOLIDS _____ MG/L _____ LBS/DAY [74024]
AMMONIA NITROGEN _____ MG/L _____ LBS/DAY [70424]
FECAL COLIFORM _____ ORGANISMS/100 ML [74324]

SIGNATURE OF EXECUTIVE OFFICER OR AGENT

TITLE

FORM WQMD-VI TRICKLING FILTER

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DISCHARGE MONITORING REPORT

OMB [illegible]-R0073

INSTRUCTIONS

1. Provide dates for period covered by this report in spaces marked "REPORTING PERIOD".
2. Enter reported minimum, average and maximum values under "QUANTITY" and "CONCENTRATION" in the units specified for each parameter as appropriate. Do not enter values in boxes containing asterisks. "AVERAGE" is average computed over actual time discharge is occurring. "MAXIMUM" and "MINIMUM" are extreme values observed during the reporting period.
3. Specify the number of analyzed samples that exceed the maximum (and/or minimum as appropriate) permit conditions in the columns labeled "No. Ex." If none, enter "0".
4. Specify frequency of analysis for each parameter as No. analyses/No. days. (e.g., "3/7" is equivalent to 3 analyses performed every 7 days.) If continuous enter "CONT."
5. Specify sample type ("grab" or "___ hr. composite") as applicable. If frequency was continuous, enter "NA".
6. Appropriate signature is required on bottom of this form.
7. Remove carbon and retain copy for your records.
8. Fold along dotted lines, staple and mail Original to office specified in permit.

(1-2) ST	(3-10) PERMIT NUMBER	(11-13) DIS	SVC	LATITUDE	LONGITUDE

REPORTING PERIOD FROM (19-21) YEAR (22-23) MO (24-25) DAY TO (26-27) YEAR (28-29) MO (30-31) DAY

(32-37) PARAMETER		(3 card only) QUANTITY (38-41) MINIMUM	(42-45) AVERAGE	(46-49) MAXIMUM	(50-53) UNITS	(54-55) NO. EX	(4 card only) CONCENTRATION (38-41) MINIMUM	(42-45) AVERAGE	(46-49) MAXIMUM	(50-53) UNITS	(54-55) NO. EX	(56-58) FREQUENCY OF ANALYSIS	(59-70) SAMPLE TYPE
	REPORTED												
	PERMIT CONDITION												
	REPORTED												
	PERMIT CONDITION												
	REPORTED												
	PERMIT CONDITION												
	REPORTED												
	PERMIT CONDITION												
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	REPORTED												
	PERMIT CONDITION												
	REPORTED												
	PERMIT CONDITION												

NAME OF PRINCIPAL EXECUTIVE OFFICER	TITLE OF THE OFFICER	DATE		
		YEAR	MO	DAY
LAST FIRST MI	TITLE			

I certify that I am familiar with the information contained in this report and that to the best of my knowledge and belief such information is true, complete, and accurate.

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

EPA Form 3320-1 (12-77)

PAGE OF

ORIGINAL

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